

SECRETS!

(...secrets you aren't supposed to know!)

Unusual technical books, past and present, of exceptionally high quality revealing skills and secret processes almost forgotten.

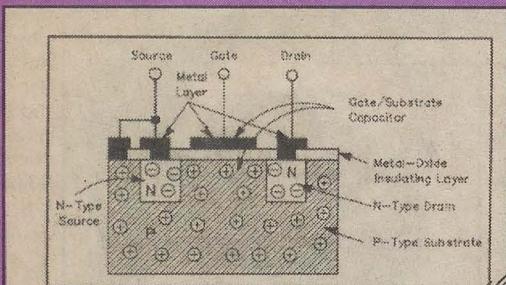


Figure 1—A metal-oxide semiconductor field-effect transistor includes a semiconductor capacitor.

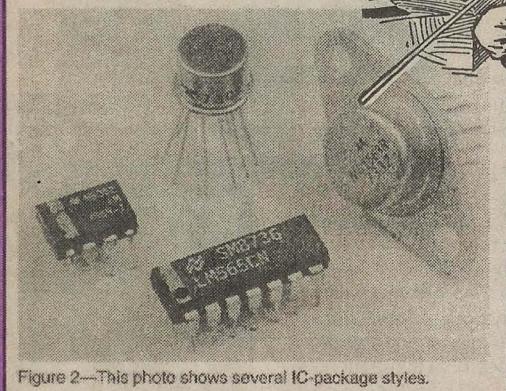


Figure 2—This photo shows several IC-package styles.

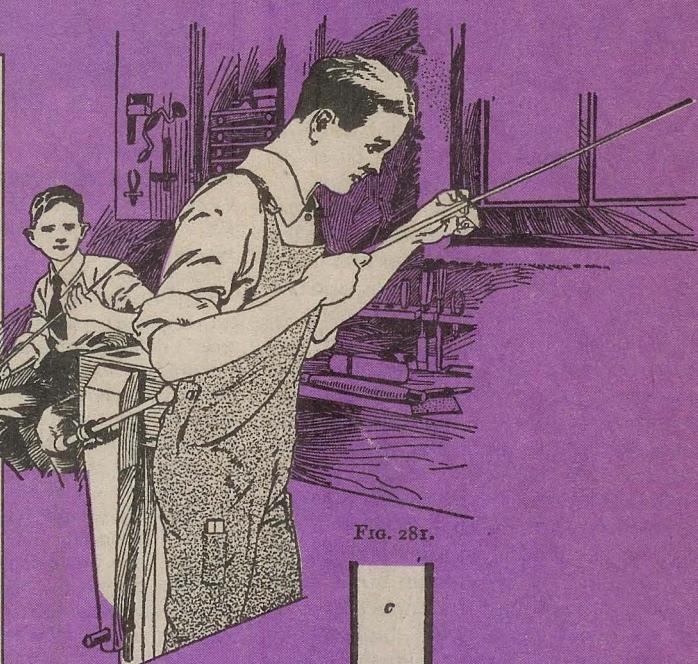
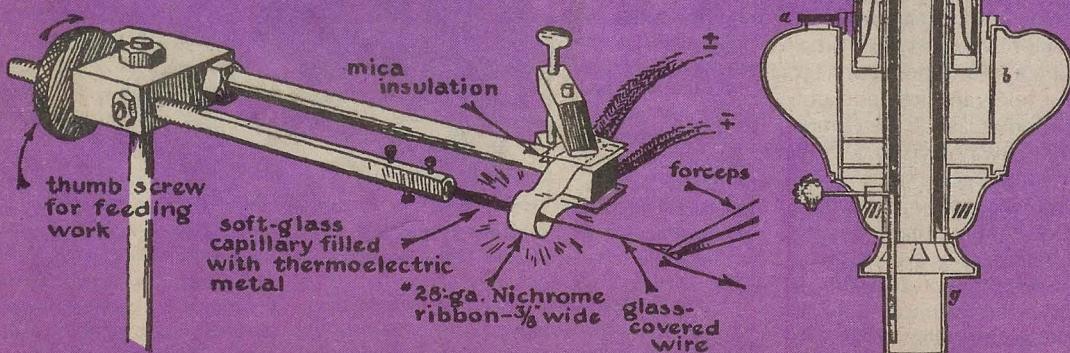


FIG. 281.

(clockwise, from above) *Understanding Electronics*, page 29-1; *The Boy Mechanic, Vol. 2*, page 69; *Wagner's Chemical Technology 1872*, page 644; *Procedures in Experimental Physics*, page 312.



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Ancient Radio Apparatus



Amateur Radio?

Once upon a time, ham radio was about building equipment and using it to communicate long distances. Both aspects were exciting.

These days with communications satellites, cell-phones, and the Internet, long distance communication is mundane. How novel is it to download pictures and text from Australia in a couple of seconds? Fiber optics, megabyte memories, big deal. But!

Amateur radio is still alive. I maintain my license so that I can be a radio amateur in the truest sense. I build simple radios and transmitters, throw a wire up in the trees, and talk to someone across the country in morse code using a couple of watts of power. Sure I can use the phone or send a fax, but it's fun to solder together components and talk to someone with a machine I've built. I'm tied into the Internet, but how can I be proud when using someone else's equipment?

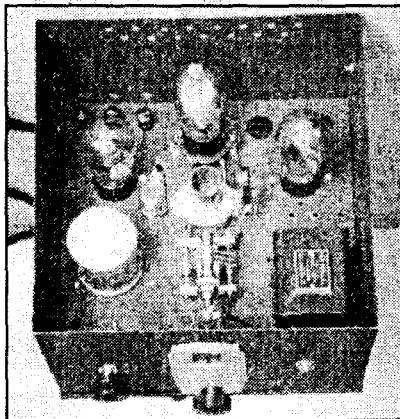
I kind of look down my nose at the guys who go out buy an expensive transceiver and plug it in, key the microphone and talk for hours. The money spent could buy a lot of telephone time or Internet connect time. To each his own, I guess. But I think they're missing out on the adrenalin high that comes from building your own radio station. What a rush!

Morse code is no more difficult to learn than typing. In fact I used an old tape recorder and taught myself the code in about a week. Two weeks later I could copy conversations off the air. It wasn't hard. It took a little determination. You have that, don't you?

Think about it. You hook up a couple of transistors, and handful of parts, and in a couple of hours have a transmitter. Connect a battery through a telegraph key and out over the air goes your message. Back comes a guy a thousand miles away saying RST 569 SLD CPY, in other words, "good signal coming in here". How many people can say they have done that? (Course, how many people have half the technical savvy we do, and therefore could appreciate the crazy things we build? Very few, I'm afraid.)

My point: consider ham radio. A license, for me, is merely the privilege of using a bit of radio spectrum to test new equipment. It's a valuable resource to have. It's free. How can you beat that? And until you've done it, you'll never know how much fun it can be.

Those Great Old Handbook Receivers



THOSE GREAT OLD HANDBOOK RECEIVERS

1929 & 1934 editions of *Radio Amateur's Handbook* reprinted by Lindsay Publications

These days you can buy an integrated circuit for less than a dollar that contains hundreds, if not thousands, of transistors and other components. You can build a phase-locked-loop FM detector almost as easily you could build a crystal set in 1920! Some people have found that fun lies in simplicity. They are actually rebelling against the high-performance high-tech and are rediscovering the high-performance low-tech world.

Building a vacuum tube regenerative receiver is a great adventure. Just two glowing vacuum tubes will fill your ears with foreign broadcasts, spy stations, ships at sea, amateur stations and more. And YOU build it. With electrical components as big as your fist! That oughta baffle the guy next door...

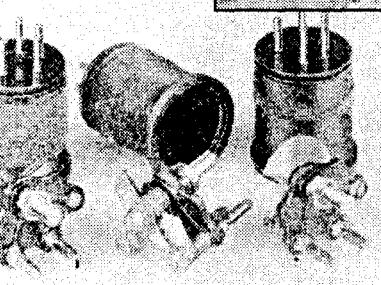
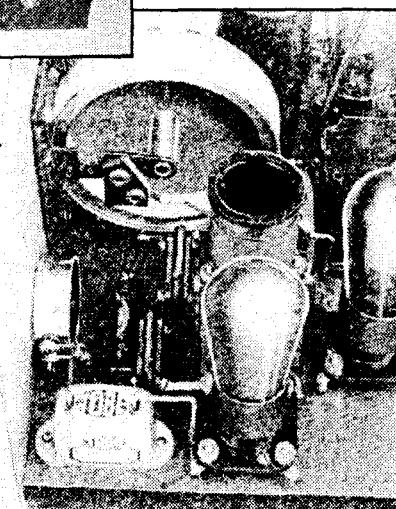
Here we've reprinted the chapters from the 1929 and 1934 ARRL *Radio Amateur's Handbook* that will open up the lost world of regenerative receiver construction. You get the theory (as it was understood then) and the construction details: all the schematics, coil specifications, chassis photos, hints, tips and secrets.

From 1929 you get details on regenerative, heterodyne, and synchrodyne (direct conversion) detectors, modulation methods, tools, soldering, station arrangement and designing the receiver. Detailed are a two-tube regen (UX201A or UX199) with plug-in coils, a three-tube regen, three-tube regen with peaked AF amp, a four-tube regen (with RF amp), and details on operation. You also get a

chart of specifications for 41 different tubes of the era.

From 1934 you get details on the latest receiver theory, a chart of 50 newest tubes with biasing diagrams, and construction how-to. You get construction info on a two tube AC-DC regen receiver, a three-tube regen receiver (RF amp, detector, AF using 58's and a 56), an add-on chassis that converts the three-tube into a superheterodyne, and schematics and photos of the National FB7A, the Hammarlund "Comet Pro", and the National AGSX receiver. There is also brief discussion of crystal filters, image rejection and superhet servicing.

You get 1934 info on ultra-high frequencies (56 MHz to 400 MHz back then), with construction info on an experimental oscillator using a couple of 10's, a single tube (30) superregenerative receiver,



a 56 MHz regenerative receiver, and more.

You will learn how to build a 1934 power supply using one of 14 different rectifier tubes. You'll even learn how to wind and rewind transformers to get the voltage you need.

This is great old how-to. Sure it's fun to etch a printed circuit and solder in a handful of components that cost only

pennies. But it's quite another thing to see those old bottles light up and get hot enough to cook your Christmas goose! You'll never experience it unless you build one of these machines. And this is a book, along with Rock's, that will put you in the middle of the old-time radio action.

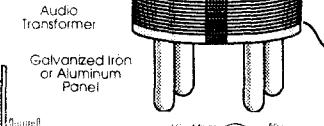
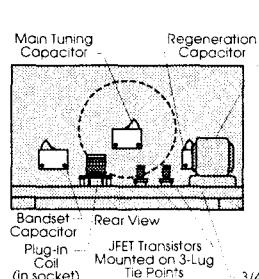
Great book for builders, amateurs, historians, radio restorers, collectors, and radio nuts in general (that's you and me, son). Good stuff. Get a copy. 6 x 9 softcover 94 pages
No. 21710

\$8.95

**SECRETS OF HOMEBUILT
REGENERATIVE RECEIVERS**
by C. F. "Rock" Rocky

People get really excited by the complexity of computers, and for good reason. But once the novelty wears off though, there is often an overpowering urge to build and operate something simple.

The very simple regenerative receiver is one of the most amazing devices ever conceived. With two tubes or transistors you can literally hear what is happening on the other side of the world.



The performance obtainable is incredible. The satisfaction one gets from building something so simple and yet performs so well is incomparable.

If you haven't built a regenerative receiver, it's something you need to do. You can hear foreign broadcasts, ships at sea, spy stations, radio amateurs, and much more. To get great performance from such a simple circuit requires some inside knowledge. "Rock" is here to teach you the secrets.

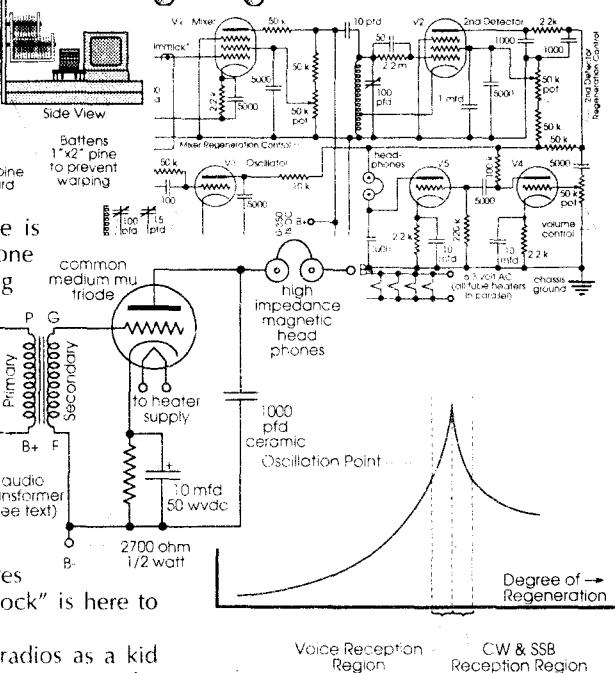
"Rock" started building radios as a kid about 1930, and has been an amateur radio operator since 1934. In the 1950's he wrote many radio construction articles for QST, Radio-News, Popular Electronics and Science and Mechanics Magazine. Now in retirement, he has put into writing many of the special secrets of regen receivers that took him many years to acquire. In effect, you can now learn what has become a lost art.

What you get here is how-to, radio history, philosophy, and the reminiscences of an "old-timer." You'll learn about crystal sets, grid-leak Audion detectors, and the regenerative detector and why it can perform so well. You'll learn about feedback techniques, good ones and the not-so-good, about coil winding techniques and rules-of-thumb, choosing and modifying capacitors, solving fringe howl, choosing headphones, keeping RF out of the AF stages, problems with hand capacity, and on and on and on.

He'll show you some of his favorite regenerative schematics such as the double twin-triode receiver, the pentode-triode receiver, the double regenerative, a field-effect version of the famous Doerle and more. You

Secrets of Homebuilt Regenerative Receivers

by C. F.
"Rock" Rocky

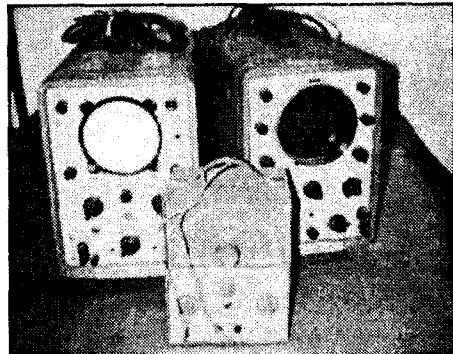


also get sample circuits and photos from the 1934 Shortwave Manual and very early QST magazines.

What you don't get is detailed info on building a particular set. That can be found in other books, especially in this catalog. What you get here are all the little things that have been left out of the other books, little things that can mean the difference between mediocrity and eye-popping success, especially if you're just starting out.

I've built a number regeneratives over the years. So has master machinist, Dave Gingery. Rock has taught us some new tricks. The circuits he provides has me fired up to start building again (as if I don't have too many irons in the fire already...).

It was fun to get "Rock's" handwritten notes into print. I think you'll find this book fun to read and will refer to it many times as you build one regenerative receiver after another. This is a great book because it fills in the holes that exist in other radio books. Get a copy! 5 1/2 x 8 1/2 softcover 126 pages No. 21720 \$9.95



Dozens of tubes, sockets, trimmers, power supplies – a ton of parts for the experimenter for only \$7. The Hewlett-Packard scopes were a \$1 each!

Hamfest Season!

The summer season is hamfest season. If you haven't been to one, you've missed something. Imagine a flea market that specializes in radio and computers with lots of odds and ends thrown in – tools, motors, stereos, etc – all at bargain prices.

Last weekend I visited a small hamfest. It cost \$5 to get in the gate, and there really wasn't all that much there. Nevertheless, I bought two Hewlett-Packard scopes from the late 50's and a tube signal generator for \$7. I was looking for parts. Back home, when I popped the cases off the scopes, I almost wet my pants. There were dozens of tubes, pots, switches, and trimmers (!), with power supplies, and all kinds of goodies.

In the 60's the ARRL Handbook showed how to build a hot performing three tube receiver "The Simple X Super" using 6U8's and a double triode. Here were the 6U8's and 12AT7's along with their sockets, biasing resistors, power supply. And left over parts for several regen receivers. All I needed was a variable capacitor and dial drive, and I could get that from the signal generator. The week before I found 1940 vintage brand-new in-the-box IF transformers at a dollar a hit for a tube communications receiver I'm building.

I passed by the computer stuff. I've got more computers than I care to mention. But if you're new to computers, you'll find everything from floppies and software to unusual chips, memory and more. Again, usually at below prevailing market prices.

Building radios need not be expensive, not when you can rummage through a box of used tubes for a \$1 each. New? No. Will they work? Most likely. Sockets? Quarter a piece. Octal. Five prong. Four prong. Your choice.

You can find a list of hamfests in magazines: *Nuts & Volts*, *CQ*, *73*, *QST*, *Ham Radio*, and others. On the Internet, a master list can be found at

<http://www.arrl.org/hamfests.html>

So now I'm modifying the tube signal generator so it will produce a easily-tuned signal from 1.5 mHz to 5 mHz at 50Ω so I can take measurements on the IF coils and the 1.8 mHz crystals I got for a buck.

What I probably should do is write a booklet to show you how to build a simple bridge to measure the values of unmarked capacitors, resistors and inductors. A few simple test instruments like these will allow you to turn other people's junk into treasure!

P.S. One guy cleaned out his barn and was giving away old Motorola VHF if strips complete with tubes, if cans, and all the little parts. Free! Why weren't you there?

Ancient Radio Apparatus



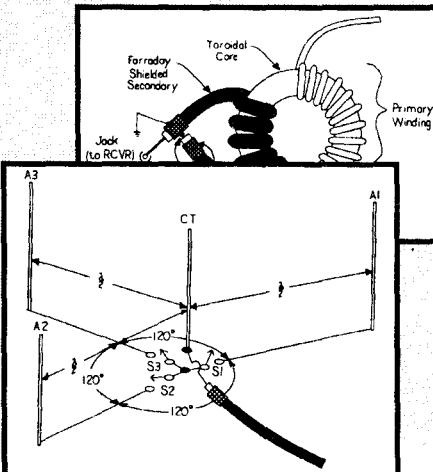
RECEIVING ANTENNA HANDBOOK

by Joe Carr

You "ain't gonna hear nothing" from your million dollar shortwave receiver unless you give it signals from a top-rate antenna. Get hot! Build a good antenna.

Here's a great book that covers receiving antennas from basics to the unusual. It's well illustrated and easy-to-read, and will give you plenty of new ideas to try.

Chapters include preliminaries, real-world antennas, antenna and lightning protection grounds, transmission lines, some quick and dirty antennas, the dipole and its relatives, longwire antennas, other wire antennas, vertical antennas, directional antennas, small loop receiving antennas, low frequency antennas, and odds and ends.



Antenna Handbook

Within the chapters you'll learn about stealth antennas for apartment dwellers, helically wound antennas, discones, counterpoise grounds for verticals, a ferriloo antenna, parasitic beams, the Thorne array, longwire termination resistors, steerable notch Beverage antennas, rhombics, trap dipoles and on and on.

You get loads of practical information from construction formulas and directional plots, to schematics for RF amps, electrical equivalent diagrams and construction details. The book is on the expensive side but delivers more useful receiving antenna information than I've seen in a single book in a long time. Order a copy. 8 1/2 x 11 softcover 189 pages

No. 399

\$19.95

MASTERING RADIO FREQUENCY CIRCUITS

MASTERING RADIO FREQUENCY CIRCUITS

Through Projects and Experiments
by Joe Carr

This is a follow up to Carr's "Secrets of RF Circuit Design", and it, too, is excellent. I think it's a beautiful blend of theory and practicality. What good is building something cookbook style if you don't have the slightest idea of what you're doing or why? Here, Carr will show you practical circuits to have fun with, and tell you why they are the way they are.

Chapters include rf components and construction, test equipment and workshop for rf projects, capacitance and capacitors, using and stabilizing varactor diodes, inductors and inductance, LC resonant circuits, building simple radio receivers, rf amplifier and preselector circuits, rf mixer and frequency converter circuits, using the NE-602 chip, direct-conversion radio receivers, rf oscillator and signal generator circuits, radio frequency filters, dealing with interference sources, radio transmis-

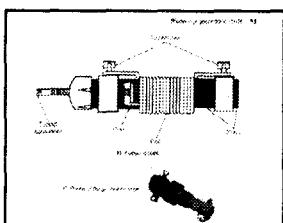
sion lines, using PIN diodes, microwave integrated circuits, electronic instrument projects, and more. A program in Basic is included for calculating rf tank circuit component values.

You get nothing specific on vacuum tube equipment, but I know from experience that the vast majority of the info here is directly applicable.

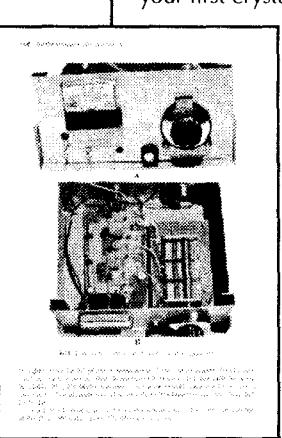
Even if you're just planning to build your first crystal set, you'll get valuable information here on components and construction. When you decide to move up to something a little more complex, you'll appreciate what Carr has to teach you. You can read this casually for entertainment, but I use this as a reference. You learn what you need as you need it. That makes it quite valuable. I think every radio experimenter should seriously consider having a copy of this. 7 1/2 x 9

softcover 411 pages
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Winding your own coils
Coils for RF applications are often wound on ferrite cores. This section shows how to wind them, including how to calculate the number of turns required for a given inductance.



RF receiver
A typical radio receiver circuit. This section shows how to design and build one.

SECRET OF RF CIRCUIT DESIGN!

SECRETS OF RF CIRCUIT DESIGN

by Joe Carr

Although this sounds like some engineering text, it's actually a great collection of circuit details, experiments, and practical theory regarding radio frequency circuits as opposed to audio or digital circuits. This is interesting reading once you've tired of the simpler stuff.

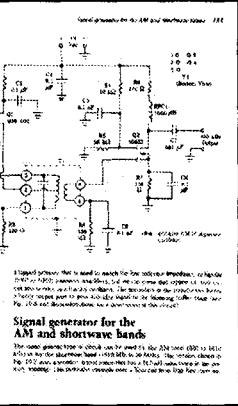
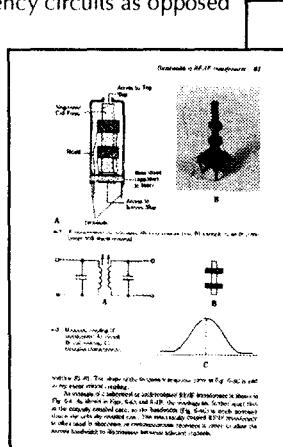
Chapters include: rf circuits and components, variable capacitors in RF circuits, winding your own coils, receiver theory and projects, tuned rf/if transformers, rf amplifier and preselector circuits, rehabilitating old receivers and transmitters, rf circuit alignment techniques, building and refurbishing signal generators, radio reception and propagation, what's that mess coming from my receiver?, simple am and sw antennas, antenna construction, building and using the rf noise bridge, transmitters then and now, uhf and microwave antennas, ad hoc antennas for emergency use, impedance matching methods and

circuits, microwave diodes, uhf and microwave rf transistors, uhf and microwave rf ics, build your own time-domain reflectometer, solving frequency drift problems, building the poor man's spectrum analyzer, and more. Also included are seven computer programs in Basic for antenna design.

This is a great book for anyone in radio, whether you are a shortwave listener, ham, or radio collector, there is something here for you. You can build a simple receiver using the NE602 chip, or look at a spark transmitter that puts a Frankenstein movie to shame. Carr is an electrical engineer and a ham, knows both the theory and the practical, and has a sense of humor that comes through in his writing.

Good book. Consider it. And look at Carr's other books. They're just as good. Get a copy. 7 1/2 x 9 softcover 405 pages
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Signal generator for the AM and shortwave bands

The same general type can be used for the 200 kHz (300 to 3000 kHz) and 10 MHz (100 MHz to 30 MHz) bands. The sections on the intermediate frequency and local oscillator frequencies apply to both bands.

For 10 MHz, the local oscillator frequency is 10.7 MHz and the intermediate frequency is 455 kHz. The local oscillator frequency is 10.7 MHz and the intermediate frequency is 455 kHz.

Ancient Radio Apparatus



UNDERSTANDING TELEPHONE ELECTRONICS
by Stephen Bigelow

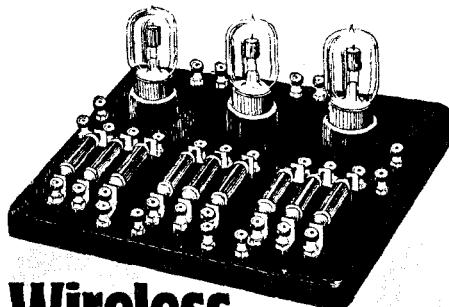
"An overview of telephone networking introduces you to the components and how they are connected with the real world. You then learn the basics of the nonelectronic telephone set - and get an understanding of vital telephone functions. The book explores speech signal processing, telephone line interfacing, tone and pulse generation and ringers.... The book spells out the advantages and disadvantages of digital transmission, sampling coding, and the various formats of multiplexed systems. The Central Office and all the various transmission modes are included, providing a complete look at telephone systems. Plus, you learn the evolving features of network transmission and wireless telephones..."

Telephones!

You'll learn much more than old phones. This is about today's electronic telephones and where it's headed. You'll learn about interfacing 2-pair local loops using amplifiers, discover latest digital transmission techniques, and even cover A/D and

D/A conversion. You'll find a complete chapter on networks, on modems and faxes, and on wireless telephones.

This is not a book on hooking up your or repairing antique phone, nor on starting your own phone company. This is a detailed look at how the modern



Wireless Experimenter's Manual

"Modern" 1920 Technology
Crystal Sets, Regens, More!

WIRELESS EXPERIMENTER'S MANUAL

by Elmer E. Bucher

reprinted by Lindsay Publications

Bucher showed 1920 radio enthusiasts how to build equipment and operate it. You can relive those days!

You get chapters on advice to the amateur, formation of a radio club, principles of the radio transmitter, construction of transmitters, construction of aerials and masts, tuners and detectors, vacuum tube detector and amplifier, undamped wave receivers, undamped wave transmitters, cabinet receivers and accessories, design of wavemeters, closed coil aerials, Weagant static eliminator, and long distance relays by radio.

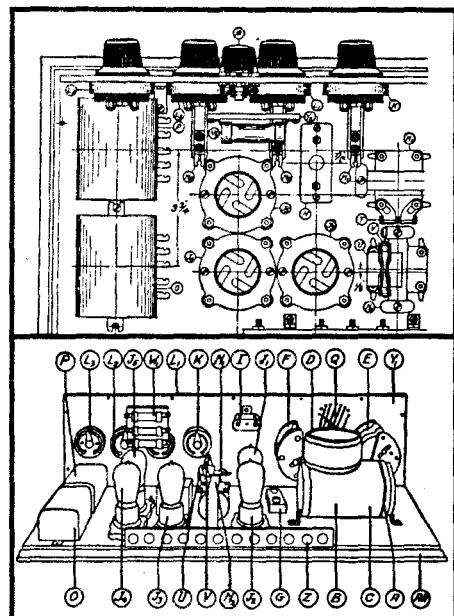
You get everything from early spark gap transmitters to continuous wave transmitters and radio telephone transmitters. You get great construction how-to on winding power transformers, coil winding machines, oscillation transformers, high-voltage condensers, rotary spark gaps, making a key, building receivers with variometers, and home-made crystal detectors.

But this is also extremely "modern" (for 1920). You'll learn about vacuum tubes and their use as replacements for crystals and as amplifiers. You'll even get one of the very earliest circuits for Armstrong's original regenerative receivers. And on and on it goes.

Great book! Fun reading. Incredibly good if you want to build crystal sets, Tesla coils, transformers, repair old radios, or build reproductions of antique equipment. Countless incredible drawings. Get a copy. 5 1/2 x 8 1/2 softcover 350 pages

No. 20854

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Early Radio Plans!

POPULAR RADIO HANDBOOK NO. 1 -

How to Build Your Radio Receiver

edited by Banning & Cockaday

reprinted by Lindsay Publications

In 1924 the people at Popular Radio published their magazine to cater to the exploding interest in shortwave radio! What you get here are the best construction articles from that magazine.

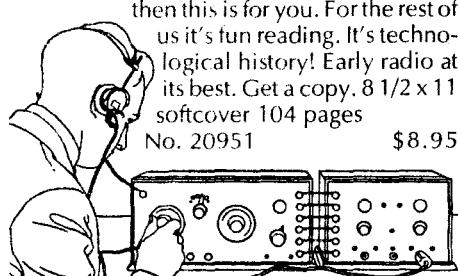
Chapters include: how to read a radio diagram, how to put up an outdoor receiving antenna, how to build an efficient NBS crystal receiver, how to build the Haynes DX receiver, how to build a two-stage audio-frequency amplifier, how to build the four-circuit tuner, how to build a tuned radio-frequency receiver, how to build the improved four-circuit tuner, how to improve the three-tube four-circuit tuner, how to build the new regenerative super-heterodyne receiver, and broadcasting stations in the U.S. of 50-watt power or more.

This is old time stuff with four-prong tubes, coupling controlled by moving the coils, bread-board layouts, and 45 volt "B" batteries. You get drilling layouts for the Bakelite panels, dimensions for the cabinets, wiring instructions and more. This is one of the best early practical how-to books I've seen.

If you have radios to restore, or have old parts you'd love to lash up into a working set, then this is for you. For the rest of us it's fun reading. It's technological history! Early radio at its best. Get a copy. 8 1/2 x 11 softcover 104 pages

No. 20951

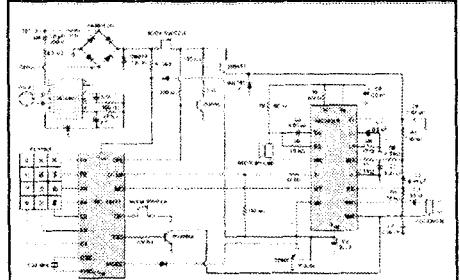
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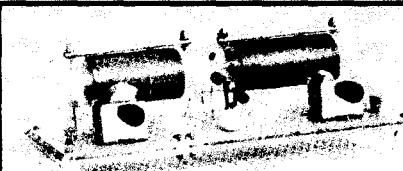
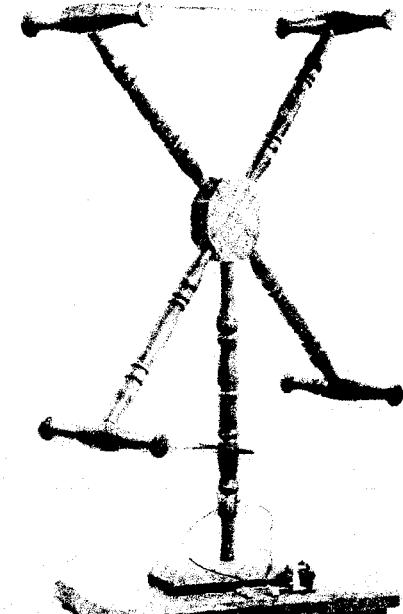
phone system works, and this kind of information is not easy to find. Detailed and well-illustrated (some diagrams right out of the Bell Labs). Great reference. Must have for phone fanatics. 7 1/2 x 9 softcover 367 pages

No. 3047

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Ancient Radio Apparatus



Radios That Work For Free! Build a Crystal Set!

RADIOS THAT WORK FOR FREE

by K.E. Edwards

Build yourself a crystal set! You'll be shown everything you need to know - from materials to tools to techniques. Edwards will show you how to build "hot-rod" crystal sets with fancy features that can outperform the old oatmeal box versions, but are still simple. If you've never built anything electronic at any time but would like to try, this is a great place to start. This book has become a classic in its field, and it gives me a good feeling. I think you'll like it, too. 5 1/2 x 8 1/2 softcover 138 pages — well illustrated
No. 314

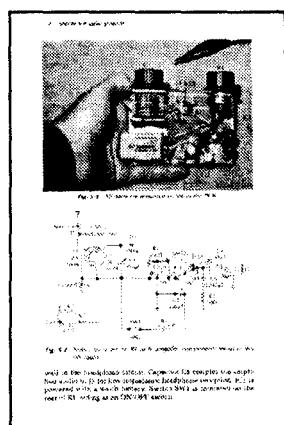
\$9.95

Build Radios!

RADIO RECEIVER PROJECTS YOU CAN BUILD by Homer L Davidson

Great construction book! Great nuts-and-bolts! You get schematics, face plate layouts, parts lists, adjustment instructions and everything you need to build working radios.

You get instructions on six different crystal sets, five am radio sets, four regenerative sets, six shortwave sets (one vacuum tube), five special sets including solar cells and varactors, and a number of unusual projects including an antique tube shortwave receiver. The author will show you how to make your own dial decals, dial pointer, and reduction gear pointer.

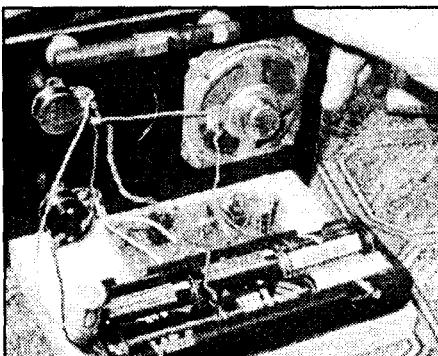


matter), those same people will be blown away when you pull one of your homebuilt sets off the shelf and explain you were listening to news from Radio Taiwan last night. They won't have a clue as to how you knew how to build it.

The only problem I have with this is that there is very little theory. Davidson will tell you to wind 50 turns on a 1 1/2" coil form. But what happens if your coil diameter is only 1 1/4"? What adjustments do you make? Understanding the theory allows you to make adjustments on the fly and use the components you may have on hand. You can get that theory from other books in this catalog.

This book shines in the "nuts & bolts" category. First rate how-to. Well illustrated. Get a copy and get building. 7 1/2 x 9 softcover 312 pages
No. 3049

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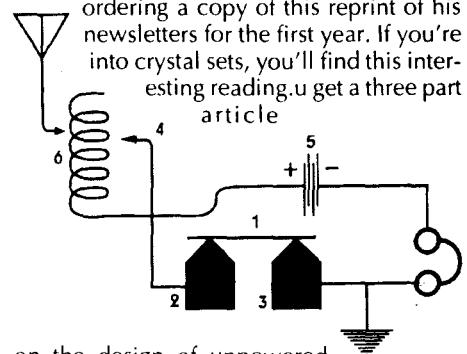
XTAL Set Society!

XTAL SET SOCIETY NEWSLETTER VOL V by Philip Anderson

In these reprints of the 1995 newsletters yoRadio can't get any simpler than crystal sets! Anyone can build one! But what do you do after you've wrapped an oatmeal box with wire? Here's your answer.

In July 1991 Phil Anderson from Lawrence, Kansas launched "The XTAL Set Society". You should have signed up. But you still can. And!

You can find out what you missed by ordering a copy of this reprint of his newsletters for the first year. If you're into crystal sets, you'll find this interesting reading. You get a three part article



on the design of unpowered AM receivers made from rocks which includes plans for building test equipment such as an impedance meter and a Q meter. You also get radio outfit in a headset, Marconi Type 107-A Tuner, the matching secret, and a great ground-noise powered receiver. This interesting circuit extracts enough electrical power from two stakes driven into the ground to power a single transistor radio. (The free energy crowd will go nuts over this...). And there is much more. Same quality as the other volumes. Interesting. Get a copy. 5 1/2 x 8 1/2 softcover 88 pages
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No. 3003 \$10.95

VOL 3 - THE CRYSTAL SET HANDBOOK

5 1/2 x 8 1/2 softcover 133 pages
No. 3009 \$10.95

VOL 4 - JANUARY - NOVEMBER 1994

5 1/2 x 8 1/2 booklet 86 pages
No. 3019 \$9.95

You can join the XTAL Set Society and get six issues of the newsletter for \$9.95, \$11.00 US for Canadians, and \$16.00 US outside the U.S.

THE XTAL SET SOCIETY

PO Box 3026
St Louis MO 63130

Tell 'em Lindsay sent ya...

Ancient Radio Apparatus



OFFICIAL 1934
SHORT WAVE RADIO MANUAL
edited by Hugo Gernsback
& H W Secor
new chapter by T. J. Lindsay

Build simple, high-performance old timeA shortwaver radios! You can. All of the secrets are here: the circuit diagrams, parts layout, coil specifications, construction details, operation hints, and much more.

Back in the 20's and 30's the only low-cost way of listening in on the newlydiscovered and fascinating shortwave radio frequencies was to build a set. Shortwave construction magazines flourished, even during the depression.

OFFICIAL SHORT WAVE RADIO MANUAL

The DENTON "ECONOMY THREE"
By CLIFFORD E. BENTON

Left: A woman holding a radio receiver. Right: A man working on a radio receiver.

OFFICIAL SHORT WAVE RADIO MANUAL

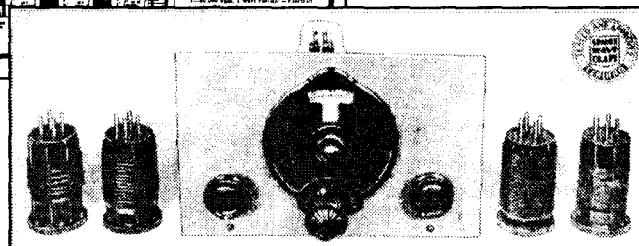
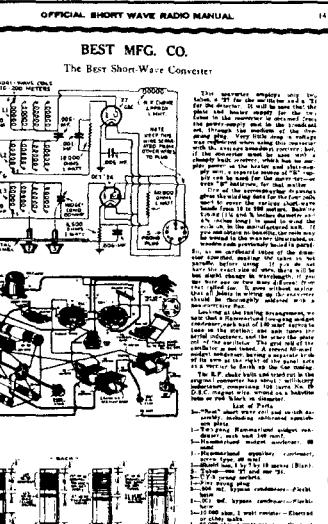
BEST MFG. CO.
The Best Short-Wave Converter

Left: A man working on a radio receiver. Right: A man working on a radio receiver.

OFFICIAL SHORT WAVE RADIO MANUAL

Power Supply Unit

Left: A man working on a radio receiver. Right: A man working on a radio receiver.



"Rock" Agrees!

Dear Mr. Lindsay:

A good friend of mine has sent me a copy of your re-done Short Wave Radio Manual of 1934, the year, incidentally, that I first received my amateur license. So it takes me back most pleasantly to the days of my youth. That I have enjoyed perusing it very much goes without saying, I believe.

It was also pleasant to read your commentary upon building regenerative receivers at the back of the book. We agree perfectly upon the effectiveness of these devices. Indeed, it was the inception of this that first made practical, long-distance radio possible. A good, properly used regenerative detector may develop a gain of 30 decibels or more, equal to that of three non-regenerative cascaded stages.

But, as you know, one always gets only what one pays for. Buy a fancy, store bought receiver

and you pay for results with money. Build a "homebrew" regenerative job, and you pay for it in the effort of building and operating it with patience and care, two words that most people scarcely know any more...

Building and using regenerative receivers continues to be a pleasurable experience for me. I have tried to get some young fellows of my acquaintance into this sort of activity with negligible success; they'd rather spend daddy's money upon fancy, store-bought gear. They do not realize how much honest education and real, challenging adventure they're depriving themselves of by that attitude. Too bad...

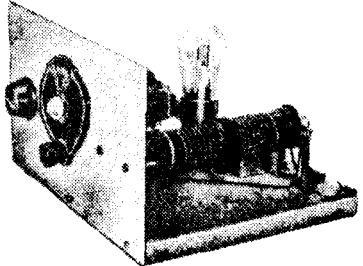
You are doing your part to keep the great self-education process alive and well. Keep it up!

C. F. "Rock" Rockey

Don't miss Rock's book on secrets of regenerative receivers described elsewhere in this catalog. It's good.

Shortwave Radio Manual

Incredible How-To, Reference, and a special new chapter on solid-state sets!



This is a compilation of construction articles from "Short Wave Craft" magazine. It's wall-to-wall how-to.

SECRETS OF OLD SETS! At the rear of the book are circuit diagrams, photographs, and design secrets of all shortwave receivers being manufactured in 1934 including some of the most famous: SW-58, the SW-5 "Thrill Box", the deForest KR-1, the Hammurland "Comet Pro", and many more.

BUILD SOLID-STATE SETS! You'll find that all the circuits use tubes since transistors hadn't yet been invented. And you'll also find that the original tubes listed are usually difficult to find today. Included is a new chapter showing how you can use transistors to replace hard-to-find vacuum tubes. You'll even see the circuit that was lashed together on a table top one night using junk box parts, one of my wife's hair curlers and alligator clips. When I hooked it up to an antenna strung across the basement ceiling and attached a 9 volt battery, signals started popping in like crazy. In a couple of minutes I heard an urgent message from a ship's captain off Seattle asking for a navigator to help him through shallow water. Not bad, considering I live near Chicago!

HOT PERFORMERS! These small regenerative receivers are extremely simple, but do they ever perform! I've built dozens of them, and they never fail to amaze me! Even master machinist, Dave Gingery has built these sets.

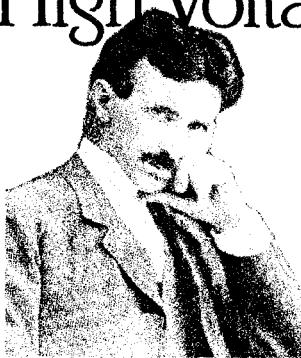
This is the nuts for the experimenter, the survivalist who is concerned about basic communication, shortwave listeners, ham radio operators who collect old receivers, and just about anyone interested in old-time radio.

Great book. Best old-time radio book I've ever seen. And I look at every one I can get my hands on. Consider it carefully. Even if you never build one of these radios, you'll get hours of enjoyable reading out of this book. Top rate. Order a copy.

8 1/2 x 11 softcover 260 pages
No. 4643

\$15.95

High Voltage!



HIGH FREQUENCY APPARATUS

by Thomas Stanley Curtis
reprinted by
Lindsay Publications

By 1916 so much interest in induction, Tesla and Oudin coils had been generated by Electrician & Mechanic, Popular Electricity and Modern Mechanics, and The World's Advances magazines, that Curtis knew his book and high voltage

High Frequency Apparatus

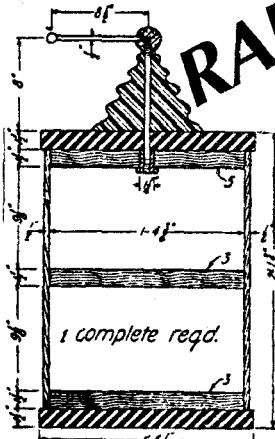
Rare Classic Text from 1916! A "Must-Have"

equipment he manufactured would be a hit.

Because of their very nature, magazines could publish only brief articles on these lightning bolt generators. Curtis went the other extreme, and packed "Apparatus" with as much detailed information as he could find. Then he added suggestions for experiments and dozens of illustrations. The result is now a classic book, and original copies are so coveted that they're difficult to find.

You get wall-to-wall how-to on coil construction. Tips on calculating windings, winding coils, making transformers, interrupters and spark gaps, and even the power transformers that drive the spark gap.

If you want to die young, you can build an X-ray apparatus. Use it long enough, and you and everyone in your apartment building will glow in the dark!



Build a grid and see for yourself if high frequency current really does affect plant growth. Build yourself a large coil that produces 50" lightning bolts, give lectures, and make people think you are a genuine made scientist.

Great book. And absolutely MUST HAVE book for the Tesla coil experimenters. Get a copy for your high-voltage library. Quality. Order a copy today. 5 1/2 x 8 1/2 softcover 247 pages well illustrated
No. 20030

\$12.95

RARE!

CONTENTS

- 1 Alternating Current at Low and High Frequencies
- 2 How the High Frequency Current is Produced
- 3 The High Potential Transformer or Induction Coil
- 4 The Oscillation Transformer
- 5 The Spark Gap
- 6 Oscillation Transformers
- 7 Induction Coil Outfits Operated on Battery Current
- 8 Kicking Coil Apparatus
- 9 One-Half Killowatt Transformer Outfit
- 10 Quenched Gap Apparatus
- 11 Physicians' Portable Apparatus
- 12 Physicians' Office Equipment
- 13 Hot Wire Meter Construction
- 14 Notes for the Beginner in Electro-Therapeutics
- 15 Plant Culture with High Tension Current
- 16 High Frequency Plant Culture
- 17 A Foreword on the Construction of Electrical Apparatus for the Stage
- 18 Construction of Large High Frequency Apparatus
- 19 Large Tesla and Oudin Coils for the Stage
- 20 Construction of a Welding Transformer
- 21 Hints for the Electrical Entertainer Appendix Parts and Materials - How Much They Cost and Where to Get Them

Lightning Bolt Generators!

including high voltage test equipment, experiments, motors, more!

Secrets of Building Electrostatic LIGHTNING BOLT GENERATORS

by Walt Noon

Generate lightning bolts of static electricity! Walt Noon will show you and explain the experiments he has run, the problems he has en-

coun-tered, his solutions to those prob-lems, ways to build low cost lightning bolt generators from parts on hand, ideas that yet need to be explored and much more.

Walt covers the electro-phorus, his Roto-static generator, his bizarre "Cat-o-Static" generator, motor speed controls, external Van de Graaff generators, the classic internal Van de Graaff generator, ideas for an extremely high voltage Van de Graaff, inductive electrostatic generators, the Dirod generator, and more.

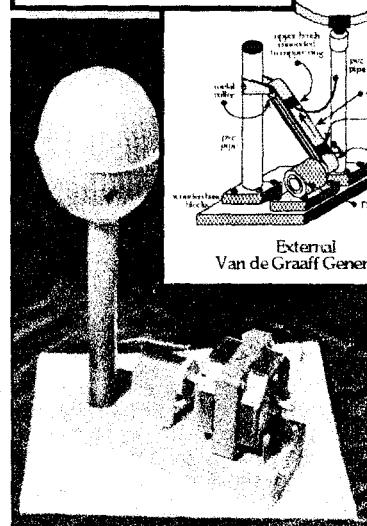
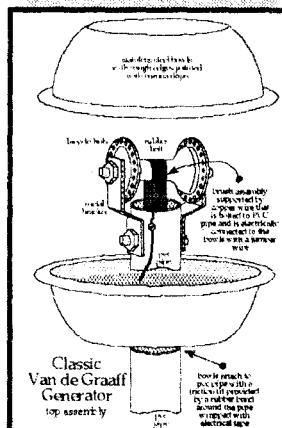
You'll find the equipment Walt has used to measure the voltages he has generated including his FET electroscope, neon lamp banks, spark gap volt meters, and more. Walt will show you how to build storage capacitors along with details of his successes and failures.

You get a list of interesting experiments to perform from something as simple as making your hair stand on end to building a "perpetual motion" machine. You'll learn about a variety of ion motors, ion blowers, the Franklin electrostatic motor, the Poggendorff Corona Motor, and even capturing free electrical energy from the atmosphere (Ben Franklin did this, and it almost killed him!) As a bonus Walt will show you how he electroplates metal onto non-conducting forms to build low-loss high voltage terminals!

Walt is not a scientist nor a fantastic author. But he will clearly and humorously explain some of the crazy experiments he's tried and hopes you'll improve on. You get an easy-to-read text loaded with photos and drawings.

You'll find that it's really quite easy to get started in electrostatics, and Walt's book will get you going! Excellent book! Worth having. Get a copy.

5 1/2 x 8 1/2 softcover 91 pages
No. 20900 \$8.95



Do You Want To Receive Future Catalogs?

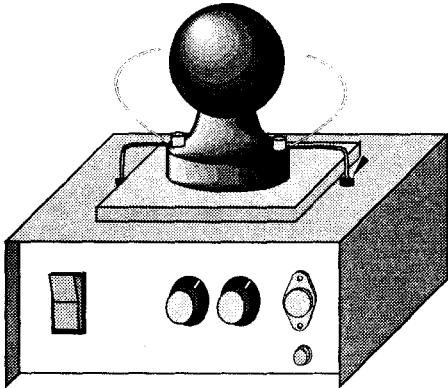
Because of the enormous expense of printing and mailing catalogs, we are forced to mail catalogs to only those people who are interested in receiving them. The best and only sure-fire way you can be assured of getting future catalogs is to order books. And that makes sense. If you can't find at least ONE book in this catalog that interests you enough to order, then there's little reason to continue sending catalogs. So order today, and we'll continue to send catalogs!

HOW TO BUILD A 40,000 VOLT INDUCTION COIL

by Walt Noon

Are you looking for a fast and simple way to generate high voltage? Try this.

The ignition coil in your automobile is the modern equivalent of an old time induction coil. It is nothing more than a transformer that converts low voltage into very high voltage. The points in your automobile replace the old fashioned spark gap. Every time the points open, a pulse of DC current hits the coil like a hammer hits a bell. The ignition coil "rings" like a bell and produces a burst of high voltage. If you "hit" the coil fast enough, the ringing seems to be continuous.



Build a 40,000 Volt Induction Coil

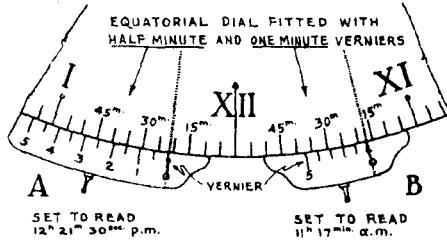
Walt Noon's circuit here replaces the spark gap and the points with a low cost solid state circuit centered around a 555 timer IC. The circuit takes 110 VAC out of your wall and converts it into a string of DC pulses. The pulses are sent to the terminals of an ignition coil that you can purchase at your local discount store. Off the high voltage terminal comes a solid 40,000 volts that can be used for a variety experiments including plasma globes and Kirlian photography.

You get drawings of the unit, parts list, circuit diagram, photos and assembly instructions for the coil. You are expected to have at least some experience building modern electronic equipment with perf board. You get hints, tips and suggestions on where and how to make circuit modifications. You also get eight different experiments plus extensive details on Kirlian photography with a modified 35mm camera.

Get a copy of this and shock the pants of your friends. It's unusual and they will be amazed. Well written and to the point. Get a copy. 5 1/2 x 8 1/2 booklet 24 pages

No. 844

\$4.95

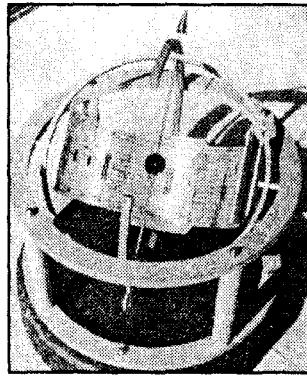


Build a Sundial!

SUNDIALS THEIR CONSTRUCTION AND USE

by Newton & Margaret Mayall

In recent years we've offered a simple, low-cost book on building sundials. Here's a reprint an 1938 original that provides even more unusual information. The price is higher, but the information is top quality. And you won't exactly find this on the newsstand.



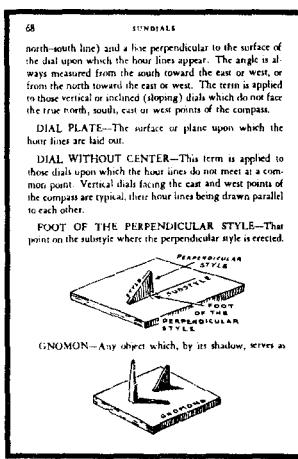
the hour lines, dial furniture, how to lay out the lines of declination, portable sundials, variable center dials, the heliochronometer, sundial classification, interesting dials of the world, hunting sundials, and an appendix of valuable design formulas.

Sundials are interesting devices. They have no moving parts. You need no great collection of tools. In fact, some are so simple you can build them out of cardboard if you wanted. Some are beautiful works of metal sculpture that look very mysterious and will baffle your friends. The truth is, you need to know more about using a compass and protractor than anything else.

Yes, sundials are simple devices, but the theory behind building accurate useful time pieces can be challenging fun. Something to try. If you're into building sundials or collecting and restoring, this is something you must consider. Heavily illustrated with photos and drawings. Great how-to. Get a copy. 5 1/2 x 8 1/2 softcover 250 pages

No. 787

Chapters include the development of the sundial, why the sundial tells time, how to design and make a dial, selecting the dial to make, parts of a dial you should know, time and standard time dials, how to lay out



Computer Projects

For kids like us who are learning

COMPUTERS

49 Science Fair

Projects

by Bonnet &

Keen

If you'd like to get your kid interested in computers or you've just picked up a machine, and don't have the slightest idea about programming in BASIC. Here's a book that delivers 49 different projects.

"Fun and creative, the programs are completely functional, yet are purposely designed for students to use as springboards for more sophisticated applications..."

You get very simple programs that deal with games of chance, aircraft design, sorting and filing data, calculating energy costs, making mathematical conversions, calculating odds, forecasting weather, and much more.

If you're computer illiterate, get hip. This is for junior high kids, but I won't tell anyone if you use it to get started in computers. It's a great place to start. And if nothing else, these make great science fair projects. 7 1/2 x 9 1/2 softcover 174 pages

No. 5018

\$10.95

Perpetual Motion

FIFTY PERPETUAL MOTION MECHANISMS

by Fred Dieterich

reprinted by Lindsay Publications

The author was a patent attorney who wrote a book in 1899 covering the process of securing a patent. One short section of his book covers perpetual motion inventions which are unpatentable. Dieterich, who was outraged by claims of perpetual motion, presents drawings of 50 different mechanisms. No doubt, you've already seen a number of these, but others are unique, and all are interesting.

You'll see the Marquis of Worcester wheel, the Horace Wickham machine, the 1868 device of Dr. Drasch of Austria, an electric device, the self-moving railway, the Orpheus 1720 wheel, a complicated water screw, and others.

Maybe you're trying to build a machine and want to avoid previous failures. Or you're a skeptic and want a good laugh. Whatever, the material is interesting and the price is low. Get a copy. You'll like it. 8 1/2 x 5 1/2 booklet 22 pages

No. 898

\$3.75

Make Molds for Auto Bodies, Boat Hulls, and More!

ADVANCED COMPOSITE MOLD MAKING

by John J. Morena

If you want to mass produce a fiberglass auto body or boat hull or just make a few replacement fenders for an antique car and sell them, you'll need a mold upon which to lay-up the part. If you're really a hot-shot you may want to fabricate an experimental airplane you've designed using carbon-graphite fibers. It doesn't matter how big or how small your project is, you'll need a mold. And here's a dynamite book on building molds.

From the dust jacket—

"...Exceeding all other available works in scope and new-method coverage, this all-in-one resource guides you through the manufacture of both metallic and nonmetallic molds used to form or bond advanced composite parts and assemblies. It provides detailed instruction on how to use each kind of mold-making material and execute each mold-making process."

Step by step you will see how to use innovations such as computer-aided design and manufacture of molds and tools... preimpregnated laminate fabric materials, and mass casting compounds that can be heated to 3000 degrees Fahrenheit... techniques for making metal-faced laminate

tools... and reuseable vacuum bagging methods...

Unequaled coverage of a wide range of mold materials enables you to select the material most suitable to your project. Clear guidance is given on how to use epoxy, polyurethane, plaster, wood, ceramic, reinforcements such as fillers, graphite and fiberglass, laminated phenolic, formed and machined aluminum and steel, electro-formed nickel, and many other materials to make high-quality advanced-composite molds.

You can depend on Advanced Composite Mold Making for all the design and engineering guidance necessary for making molds for producing high-quality advanced composites...

Other books will show you how to fabricate fiberglass, but how many give details on moldmaking? Here's the best I've seen. Consider it carefully. 6 x 9 hardcover 431 pages No. 495 \$67.50

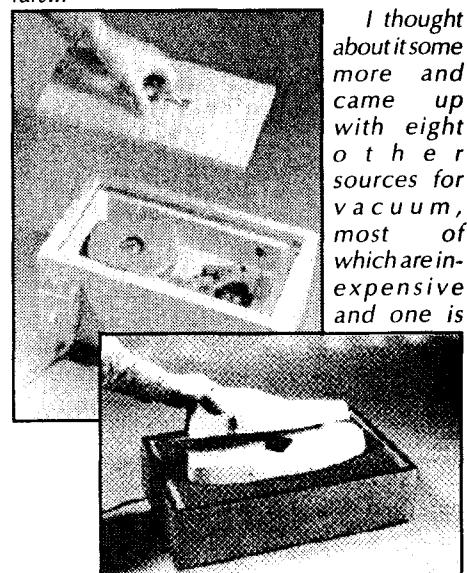


DO IT YOURSELF VACUUM FORMING

by Douglas E Walsh

The author wrote me:

"I tried the obvious way first, as I'm sure many others have by using a kitchen oven and shop vacuum cleaner. The results were OK, but limited to simple parts in thin plastics. The oven part works fine but the vacuum cleaner just didn't provide enough vacuum.... Real vacuum pumps cost hundreds of dollars..."



I thought about it some more and came up with eight other sources for vacuum, most of which are inexpensive and one is

Vacuum Form PLASTICS!

"...simple forming for about \$15.00 or less..."

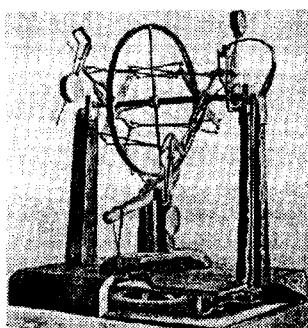
totally free! I was then able to combine a vacuum cleaner with a cheap source of higher vacuum. This gave me that magic combination of high vacuum and high flow necessary for serious forming.

This easy-to-read book shows you how to get set up to do simple forming for around \$15.00 or less if you scrounge for parts. You can also build a two-stage high vacuum system for \$50-\$60 that can form up to 1/4" thick plastics...."

You can produce magnetic signs, parts for models, and all kinds of things if you use your imagination. You can put this simple, but powerful mass-production technique to work for you because you don't have to spend a fortune on equipment.

Chapters include the basics, heat sources, vacuum sources, forming equipment, plastics, molds, forming and finishing. You get straight forward to-the-point how-to with plenty of photos and drawings.

Possible money maker! Fun to try. Here's an excellent book by a man who has done it, and explains it clearly. Get a copy! 5 1/2 x 8 1/2 book-style spine 128 pages No. 1308 \$9.95



You get pictures of great machines from Dr Schwiers 1790 ball-powered wheel and Chaper's 1870 sponge-wheel, to a photo of Redheffer's pm machine model in the Franklin Institute and Keeley's hydro-vacuo engine of 1872. Before you get your hopes up, realize Keeley and many others were con-men. Keeley built a machine that turned tap water into "high-pressure etheric vapour when vibratory energy" was applied. After Keeley's death, investigators found the machine ran on compressed air as did his famous motor.

Great machines. Great eccentrics. Great reading. In print since 1977. Bargain book. Get one. 5 1/2 x 8 1/2 softcover 234 pages No. 510 \$7.95

CLASSIC PERPETUAL MOTION HISTORY!

The History of an Obsession

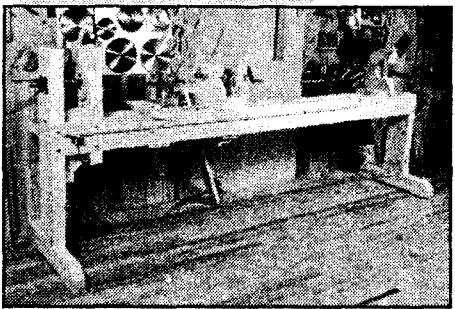
by A Ord-Hume

"Make a machine that gives out more work than the energy you put into it, and you have perpetual motion.... Here is a fascinating history... including sincere scientists,... charlatans and frauds who bilked the investing public; and a handful of machines that inexplicably appeared to work as endlessly as the interest in this inexhaustible subject..."

Chapters include elementary physics and perpetual motion, medieval pm, self-moving wheels and overbalancing weights, lodestones and electro-magnetism, capillary attraction and spongewheels, Cox's pm, the Redheffer pm, Keeley and his Amazing Motor; odd ideas about vaporization and liquefaction, the Garabed project, ever-ringing bells and radium pm; rolling ball clocks; perpetual lamps, and more.

Keeley and his Amazing Motor; odd ideas about vaporization and liquefaction, the Garabed project, ever-ringing bells and radium pm; rolling ball clocks; perpetual lamps, and more.

ARTS & CRAFTS



Wood Turning Techniques



LATHES AND TURNING TECHNIQUES by the editors of Fine Woodworking Magazine

Great articles reprinted from the magazine. Color photos throughout. Great info!

I counted 36 articles with titles like: production tips from an architectural turner, tool rests and turning tactics, boatbuilder's bowls, turning large vessels, lathe duplicators, efficient spindle turning, the Old Schwamb Mill, Vermont Turning School, chasing large wooden threads, economy lathes, heavy-weight lathes, the bowl gouge, woodturning chisels, chucks for woodturning, backyard timber, and much more.

A couple of articles of interest are those that will show you how to build a woodturning lathe: a beer-box lathe and shopmade lathes (a big one!). You really don't have to sell the kids to the gypsies to raise the money to buy a lathe. You can build one. Fascinating ideas from people who have done it.

Great how-to. Fun reading. More ideas than you can try in a month of Sundays. Get a copy. 9 x 12 softcover 127 pages

No. 5006

\$14.95



Molding & Casting Handbook

The Prop Builder's MOLDING & CASTING HANDBOOK by Thurston James

Try this! Take a dead carp and make a couple two-part plaster molds before it starts to decompose. Then make urethane castings with the molds. These are the techniques that Hollywood uses to make props for movies.

This is a great book all about making molds and casts for theatrical uses. You'll learn about one- and two-part plaster molds, a two-part mold using the shim

method, molds from dental alginate and moulage, and a variety of molds using latex rubber, Silicone RTV rubber, injected Silicone molds and more.

You'll learn what type of release compound to use for each combination of mold and casting material.

Then you'll learn how to do absorption casting with latex and neoprene casting rubber. You can make papier-mache, Celastic and fiberglass casts. You can cast with hot melts such as wax, machinable wax, hot plasticine, hot melt glue, and hot melt rubber. You can make fake "glass" bottles to break over people's heads, or panes of glass to safely throw people through during a barroom brawl (or the Christmas family get together). You might want to cast with polyester resins, urethane foam, plastic wood, Durham's Rock Hard and more.

Then there is a whole section on vacuum forming with thermoplastics using a large, high-performance, home-made vacuum forming machine. You can watch as artists reproduce railings, cornice molding and even tile roofs in lightweight plastic sheeting. It's quite impressive. And the whole book shows you how you can do it, too.

Wall-to-wall photos. Detailed how-to. Hints, tips and secrets. This is a book on casting practically everything EXCEPT metal. Rare information. I think you'll really like it. You get your money's worth, and then some in my opinion. 8 1/2 x 11 softcover 236 pages

No. 1328

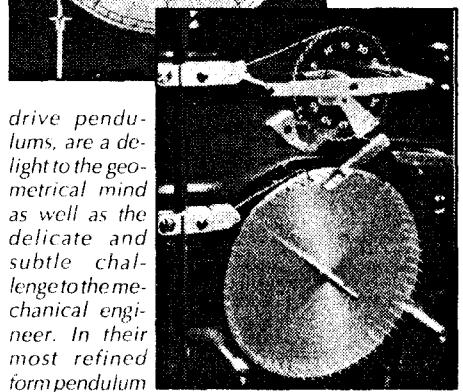
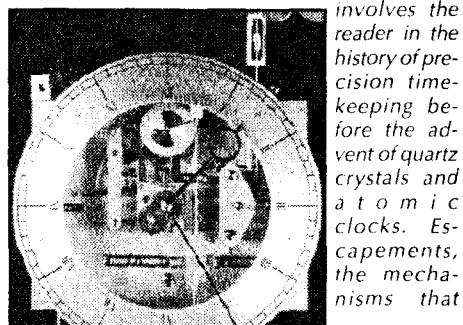
\$19.95

Precision Clocks!

MY OWN RIGHT TIME

An Exploration of Clockwork Design by Philip Woodward

"The pendulum is a constant source of interest to scientists. Great and well-known inventors such as Galileo, Huygens, and Kelvin all devised mechanisms to maintain its even oscillations. Others such as John Harrison, Lord Grimthorpe, and William Shortt are known only in horological circles but contributed as much or more over three centuries. By writing a personal account of his own inventions and achievements in horology the author



involves the reader in the history of precision time-keeping before the advent of quartz crystals and atomic clocks. Escapements, the mechanisms that

drive pendulums, are a delight to the geometrical mind as well as the delicate and subtle challenge to the mechanical engineer. In their most refined form pendulum clocks not only

keep astonishingly accurate time but

are also sensitive enough to detect

the ebb and flow of tides and even

the ceaseless quivering of the Earth

itself."

This is a absolutely fascinating book about one precision machinist's quest for more and more accuracy from pendulum clocks. You have just got to see some of his escapements and gearless clocks!

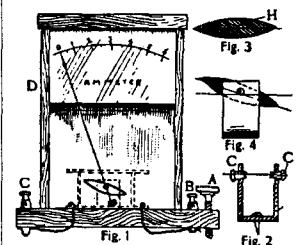
Chapters include a horologist in the making, theory and practice, choosing an escapement, echoes of Hope-Jones, Harrison and Congreve, silence for a cellist, going without gears, disturbed harmonic motion, the phase circle, the Shortt free pendulum, aiming too high, W5, error correction, noise modulation, the enigma of flicker noise, Wallman's conjecture and clockwork with a difference.

Woodward is an engineer, physicist and mathematician. And what a book he has created! What clocks! I've never built a clock, but after reading this, I'm fired up to start. Get a copy and see what you think. It's British and expensive, but what beautiful machines this book reveals! Well illustrated. 8 x 10 hardcover 166 pages

No. 1386

\$45.00

ARTS & CRAFTS



BOY MECHANIC - BOOK 1

compiled by H. H. Windsor
reprinted by Lindsay Publications

"700 Things for Boys to Do. How to construct wireless outfits, boats, camp equipment, aerial gliders, kites, self-propelled vehicles, engines, motors, electrical apparatus, cameras and hundreds of other things which delight every boy."

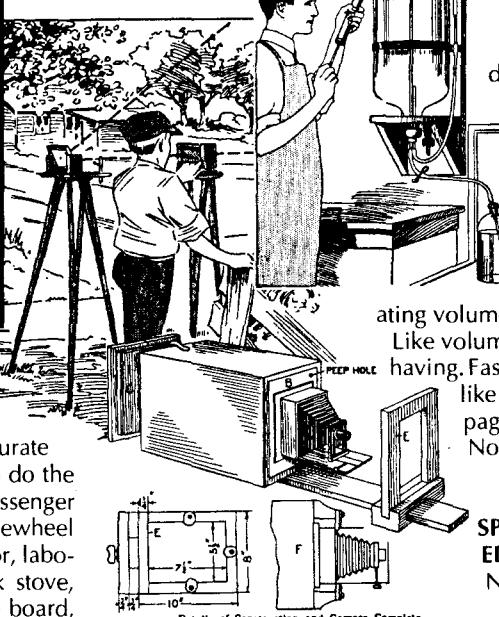
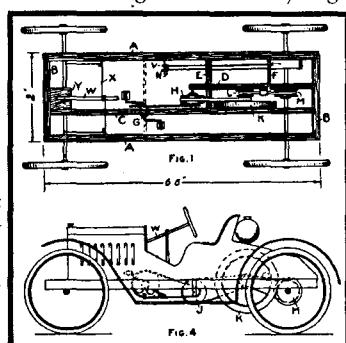
You get wall-to-wall projects that in most cases are not too detailed, but are more than enough to whet the appetite and make you want to get started. Build a Wright-brothers style glider! A

Volume 2

BOY MECHANIC
BOOK TWO
reprinted by
Lindsay Publications

"1000 things for Boys to Do. How to construct devices for winter sports, motion-picture camera, indoor games, reed furniture, electrical novelties, boats, fishing rods, camps and camp appliances, kites and gliders, pushmobiles, rollercoaster, ferris wheel and hundreds of other things which delight every boy with 995 illustrations."

Learn how to do plane-table surveying and make accurate maps. Once you've mastered that, you'll be shown how to do the same job from carefully taken photographs. Make a four-passenger bobsled, and ice glider, snowshoes, snowball thrower, paddlewheel boat, tandem monoplane glider, movie camera and projector, laboratory gas generator, soap box racer, oil burner for cook stove, combination lock for a drawer, magic tricks, electric score board,



disc-armature motor, and hundreds of other things.

You get wall-to-wall illustrations. You may attempt only two or three projects, but that's okay. You'll have countless hours of fun just browsing through this idea-generating volume from 1915. It's great.

Like volume one, this is a classic worth having. Fascinating! Order a copy. You'll like it. 5 1/2 x 8 1/2 softcover 473 pages

No. 20676 \$18.95

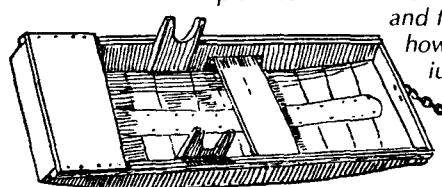
SPECIAL HARDCOVER EDITION VOL 2

No. 20684 \$29.95

AMERICAN BOYS HANDY BOOK
by D. C. Beard

"If Huckleberry Finn were to settle down, somewhere out there in the territory, and decide to become an author, he might very well come up with a book like this one..." — Washington Post Book World

"The Handy Book was the perfect survival manual. It contained plans for 16 kinds of kites and hot-air balloons and fishing tackle. It told you how to make and stock an aquarium, to construct a water telescope and how to camp out without a tent. Or in a hut made from pine



American Boys Handy Book! 1882 Classic!

boughs. How to build 10 kinds of boats, including a flatboat with a covered cabin. Ice boats, too. One-person canoes. Bird calls. Squirt guns with astonishing range and authority..." — Henry Kisor, Chicago Sun-Times

As a kid I read an original copy in our small town library. This is a classic book. Get a copy! 5 1/2 x 7 1/2 softcover 441 pages

No. 6034 \$12.95



The Boy Mechanic

Two jam-packed project books for boys!

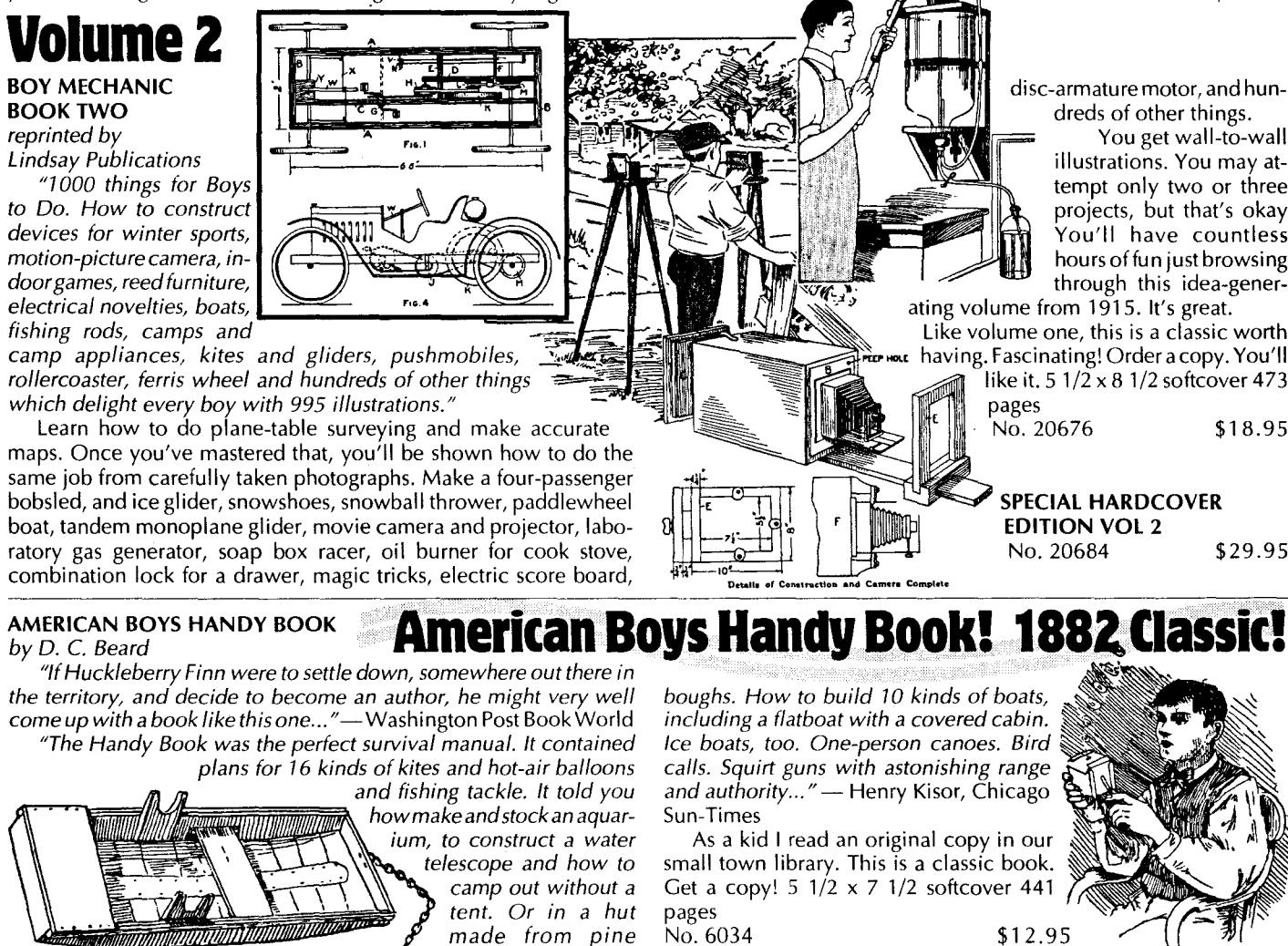
Wimshurst machine! An arc light! An electric stove! A toy steam engine! A telegraph key! A water rheostat! An alarm clock chicken feeder! A flat bottomed boat! An induction coil! A library table! A machine to put paraffin on wire! A pipe fitting steam engine! An electric postcard projector! An ammeter! A paper hot air balloon! A workbench!

You'll find information on imitation arms and armor, magic tricks of all kinds, chair carting, sundials, homemade phonographs, gymnasium equipment, an ice yacht, a pipe fitting lathe, a paper boat, a cross bow, an electric motor, glass blowing and much, much more.

Many people have asked us to reprint the Boy Mechanic. One look through it, and you'll see why. It's a combination of practical projects, not-so-practical projects, crazy ideas, and plain ol' fun nostalgia. 1913 edition. It's a classic book well worth your consideration. Order a copy today!

5 1/2 x 8 1/2 softcover 469 pages
No. 4880 \$18.95

Fig. 4—Pouring the Metal



ARTS & CRAFTS

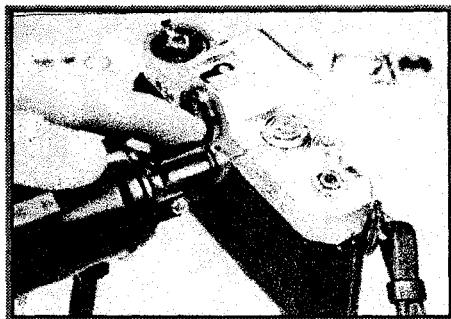
CAMERA MAINTENANCE & REPAIR

by Thomas Tomosy

Cameras are complex devices but many, many problems can be solved quite simply. This book won't necessarily put you in the camera repair business, but you WILL be able to make many repairs.

Chapters include how to use this book, what will you need, important rules and precautions, shortcuts, dos & don'ts, design considerations and characteristics, mechanical cleaning and lubrication, optical cleaning, cosmetic cleaning (exterior face lift), general disassembly and repair methods, accessories and how to maintain them, testing camera functions without instruments, simple diagnostic tools and methods, test instruments you can build, where to find parts and supplies.

Part two will take you through 31 different cameras including the Olympus OM-1, Pentax Spotmatic, Kodak Stereo, Canon AE-1, and even a Hasselblad. In addition parts three and four will give you additional hints on other cameras, tips, charts, and reference material.



Repair Cameras!

written by a European trained master camera technician

Once in the military in Germany I bought a bunch of old cameras for 25¢ each from a scavenger at the local city dump. The shutters didn't work, at least, until I dismantled, cleaned, and lubricated them. I've taken far better pictures with my 25¢ wonders than most people will ever hope to take with even the most expensive camera.

Used cameras are all over the place. Pick one up for a song, repair it, and use it (or give it to some creative kid as a gift...). You can't possibly become an expert with just this book. But it will get you started, and I think you might be surprised at the results you get.

8 1/2 x 11 softcover 172 pages

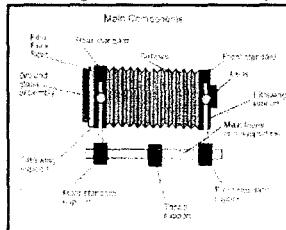
No. 5012

\$24.95

Build a View Camera!

BUILD YOUR OWN VIEW CAMERA by Bert West

This is a small book, self-published, with a hefty price tag. But what you get is rare information. You'll be shown how to build a working view camera. (If you haven't gotten



beyond an auto focus 35mm camera, I had better explain that a view camera is that "old-fashioned" camera with the bellows that have been and still are used by the masters of photography. They're not really old-fashioned. They're the best.)

West will teach you how to make the front standard and lens board, all the tricks of fabricating a bellows, the ground glass assembly, the main support rail, and the other smaller components. He'll also show you (very briefly) why a view camera is so much more powerful than a handheld camera.

You'll still have to buy a lens, but you can get one fairly cheaply to get started. Some of Ansel Adams' finest, most popular photos were taken years ago with lenses that now sell inexpensively on the used market. You'll also need cut film holders. West suggests sources of supply.

The only really critical part of building the camera is getting the ground glass mechanism precisely aligned. But West shows that even this operation is not that difficult. You don't need to be a technical wizard to produce a quality working view camera for a fractional of the cost of new unit.

You get lots of photos and drawings. A word of advice: I've seen similar books on unusual topics come on the market sell for a while and then disappear because demand was not strong enough to print more. This might be one of them. It's here today, but will it be in five years? Not a bad book. And certainly not a bad camera. Get a copy, and start building.

5 1/2 x 8 1/2 softcover 112 pages

No. 5020

\$19.95

Print! Signs! Shirts!

COMPLETE BOOK OF SILKSCREEN PRINTING PRODUCTION

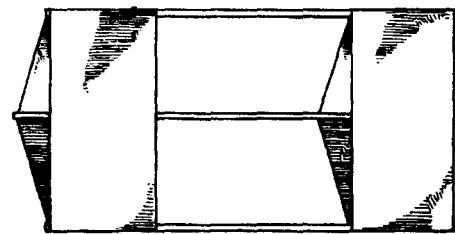
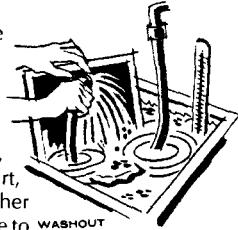
by J. I. Biegeleisen

Take an old picture frame, cover it with cloth, glue a stencil to it, and you have a primitive silkscreen. You lay it on paper, cardboard, or a tee-shirt, put thick ink on the other side and use a squeegee to force the ink through the stencil. You've printed your design. It's that simple.

You can print signs, shirts, decals, wallpaper and much more without expensive equipment. This book will show you how to do everything from building the simple frame to multi-color printing.

Silkscreen is versatile and low cost. It's a skill you should have. Here's a dirt cheap book that will show you how. 5 1/2 x 8 1/2 softcover 253 pages No. 424

\$5.95



Go Fly A Kite!

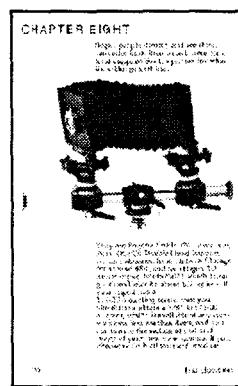
25 KITES THAT FLY

by Leslie L. Hunt

Learn about kitemaking in general. Learn how to make tailless kites such as a butterfly kit, a yacht kite, English kites, five-point kites, or an elephant kite. Make compound kites such as a square box kite, a military kite, or a cross kite. Chapters on flying hints, accessories, and miscellaneous information.

Dirt cheap! Perfect for summer! Get a copy. 5 1/2 x 8 1/2 paperback 110 pages No. 467

\$3.50



House Your Bird!

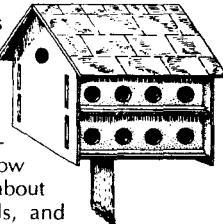
COMPLETE BOOK OF BIRDHOUSE CONSTRUCTION

by Scott Campbell

Build a birdhouse! It's easy. Learn about designing the roof, cleanouts, drainage and ventilation, entrance holes, the interior, the requirements of the birds, how to support a birdhouse, about inspection, pest guards, and more.

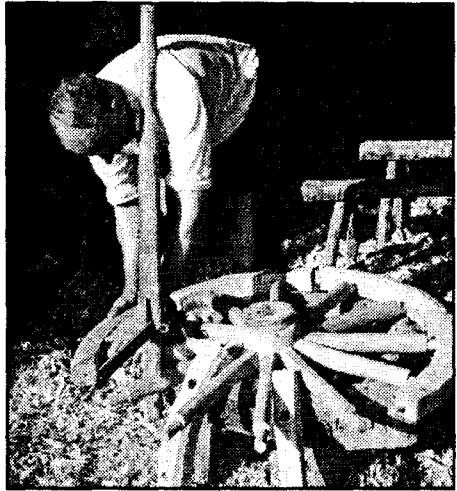
When your children or grandchildren ask you how to build a birdhouse, you don't have to admit you don't know how. Whip out this booklet and get underway. Or give it to them as gift. Dirt cheap! Good! 5 1/2 x 8 1/2 booklet 48 pages No. 6010

\$1.95





Homesteading & Survival



Wheelwright!

THE VILLAGE WHEELWRIGHT

by Jocelyn Bailey

Shire Series No. 11

Another look at early British technology. "...the term wheelwright was commonly applied to craftsmen whose work also included making field gates, coffins and much else besides. This book describes and illustrates the many aspects of their work: the layout of their shop; the timber they used and sawyers who cut it up for them; the wagons they built; the making of wheels and the tools they used...."

Can you take a tree and turn it into a wagon wheel? 5 1/2 x 8 booklet 32 pages
No. 6087 \$4.25



CIRCULAR SAWMILL BLADES

reprinted by Lindsay Publications

These pages, reprinted from two different 1880's books, will show you how to make, set and true up circular saw blades. You'll get a brief lesson on setting saw teeth and on hammering a bent circular saw blade back into truth — only a few pages long but the best explanation I've been able to find yet.

Circular Sawmill Blades

Pages from the second book "Leffel's Construction of Mill Dams and Bookwalter's Millwright and Mechanic" from 1881 will reveal how two different sawyers of 30 years experience take a sheet of steel and layout a 50" circular sawblade from scratch. This method produced blades able to saw, before resharpening, as much as 4500 feet of bark-covered hardwood taken from the Missouri river still embedded with sand and grit. And you also get another set of brief instructions on hammering a blade back into truth.

Rare information! Anyone even thinking of building or running a sawmill MUST have this. The original books cost me a fortune, but your cost is practically nothing when you consider the rarity of the information. Order a copy! 5 1/2 x 8 1/2 booklet 22 pages
Cat. No. 896 \$3.50

Homestead!

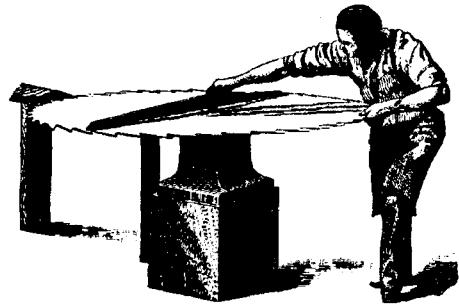
Tell the Boss to Shove It!



FIVE ACRES AND INDEPENDENCE

by M. G. Kainb

Tell the boss to hang it, and move to the open country and homestead! It's possible. This reprint of the 1935 original will show you as it did thousands during the Depression how to survive comfortably on five acres. You'll learn about greenhouses, coldframes, soil, manure, fertilizers, compost, tools, weeds, orchards, pruning, grafting, seeds, transplanting, berries, things to sell every day, grapes, storage, and much more. There's so much info here at such a low price, you can't afford not to have a copy. 397 pages 5 1/2 x 8 1/2 paperback
Cat. no. 608 \$7.95

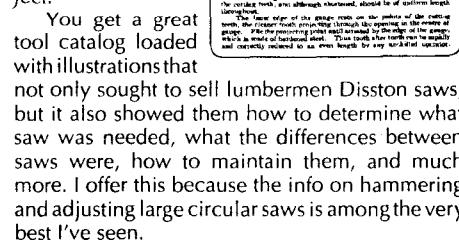
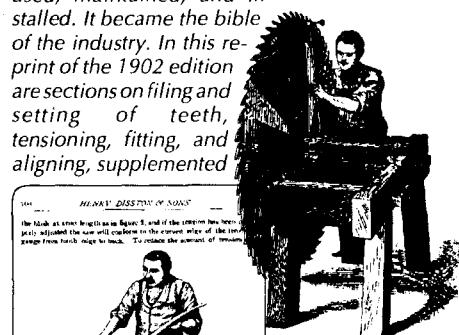


LUMBERMAN'S HANDBOOK

HANDBOOK FOR LUMBERMEN

by Henry Disston & Sons, Inc

"For over 100 years Henry Disston & Sons was America's leading sawmaker the standard by which all others were measured. Among its most important products were the band, and circular and crosscut saws used throughout the lumber industry. The Disston Handbook for Lumbermen describes and illustrates these products in great detail and, most importantly, explains how they were used, maintained, and installed. It became the bible of the industry. In this reprint of the 1902 edition are sections on filing and setting of teeth, tensioning, fitting, and aligning, supplemented



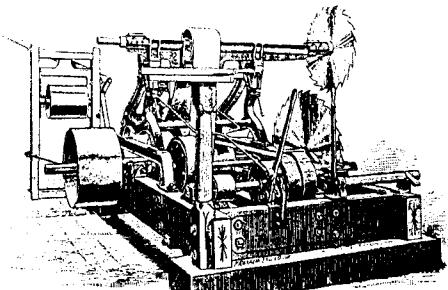
If you like tool catalogs, you'll like this. If you have or dream about owning a circular sawmill someday, you must have this. Beautiful old book covering beautiful old technology. Get a copy. 6x9 softcover 162 pages
No. 1397 \$17.50



Homesteading & Survival



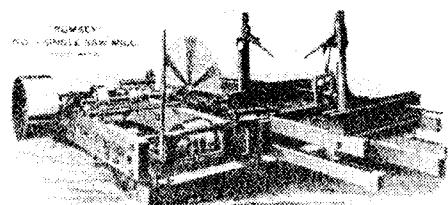
Circular Sawmill



THE CIRCULAR SAWMILL

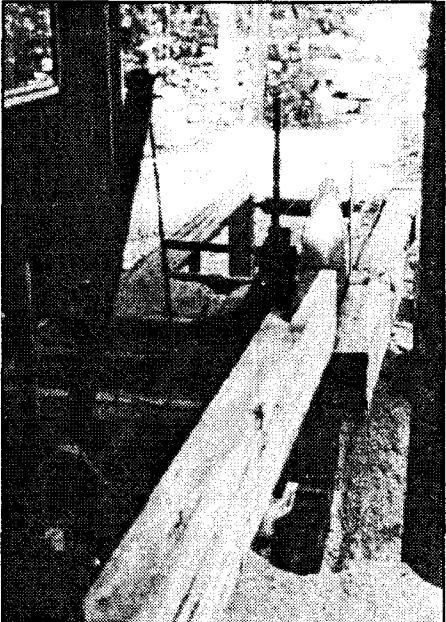
by Chuck Wendel

All but the last few pages here are filled with dozens and dozens of illustrations of sawmills the author has gleaned from his extensive reference library. You'll see saws in alphabetical order manufactured by Allis-Chalmers through Westinghouse Machine Company. In the last few pages you get chapters covering setting up and checking the sawmill, hammering and adjusting circular saws, mechanics of the sawmill, model sawmills, and a bibliography.



This is a picture book, but there's much to be learned from the great illustrations if you have a sharp eye for mechanical detail. Great book for the builder, owner, operator, historian, and the guy who wants to tie his mother-in-law to a log. Get a copy! 8 1/2 x 11 booklet
68 pages
No. 1299

\$9.00



Build a Circular Sawmill

BUILDING A CIRCULAR SAWMILL

by Richard Buxton

Remember the Waltons on TV? They ran that sawmill on a mountain in Virginia during the Depression. Well, here's a modern day Walton who lives on a mountain in Virginia. But he's a little sharper than John-Boy. He built the sawmill, and here he shares with you what he learned the hard way.

He'll show you how to pick the site; lay out the wooden frame; put in the foundation; install the rails; build the carriage, headblock, knee, set works and dogs; fabricate a drive assembly for the carriage; modify a power plant; install and adjust the blade; and more.

Buxton's machine has a 24' x 38" bed with 52" diameter sawblade driven by an old Volkswagen Beetle engine. The carriage drive is a separate electric drive. This is a proven sawmill that has been used extensively.

This is not a simple project, but it's not impossible either. It requires welding, a lathe, an aluminum foundry, and the knowledge to use them. A milling machine would probably be useful, too. You certainly aren't going to build this in a single weekend.

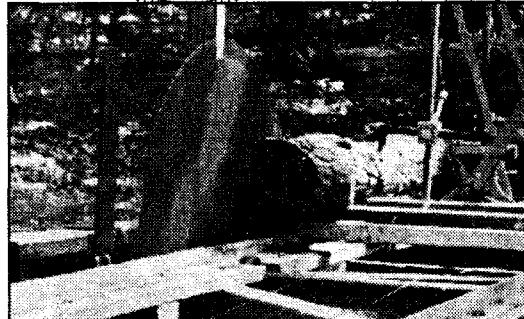
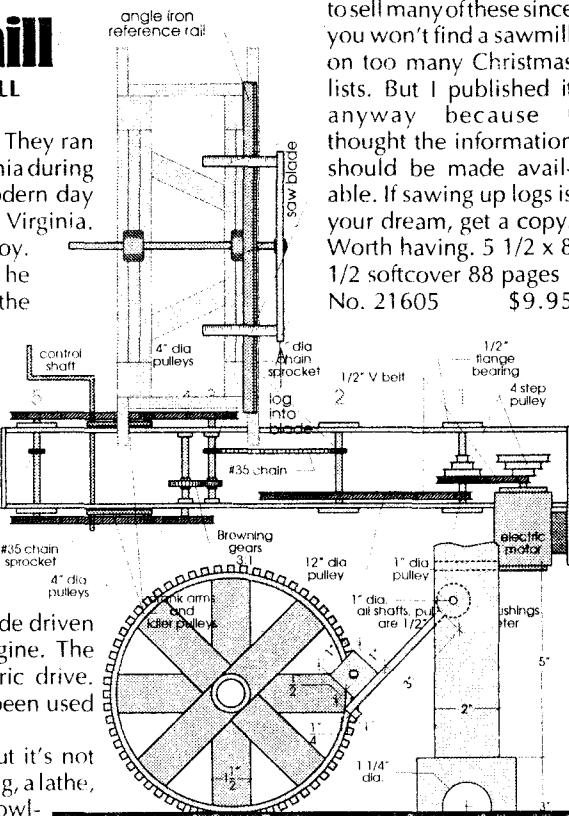
The materials you will need are common angle iron, drill rod, belts, pulleys, key stock, standard bearings and so on. The only unusual item is the sawmill blade, and he'll give you tips on what to look for in buying a used one like he did.

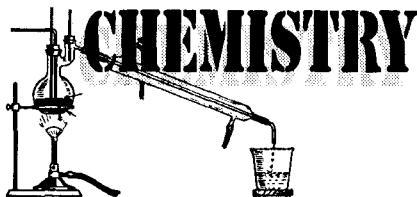
You get many drawings and pic-

tures. But I must warn you, this is neither a step-by-step how-to manual, nor is Buxton a world-class writer. What you get here is story of how one high-energy high school shop teacher creatively adapted what he could find to build a high quality circular sawmill on the cheap as told in his own words. He'll tell what he did right, and what he should have changed. He expects you to have at least basic mechanical skills and to view his mill as the starting point for your own. He doesn't expect you to build a duplicate. In essence, this is a detailed mechanical report for people who are thinking of building their own sawmill. (And the truth is, if you're not knowledgeable enough to take what he's given you here and build a sawmill, I certainly don't want to be around the first time you fire the thing up!)

This is a valuable little book by someone who has done it. Successfully. It may not win a Pulitzer, but this is a book loaded with unusual info that can only be attained by doing it. And for the guy who wants a sawmill, this is a must-have. I really don't expect

to sell many of these since you won't find a sawmill on too many Christmas lists. But I published it anyway because I thought the information should be made available. If sawing up logs is your dream, get a copy. Worth having. 5 1/2 x 8 1/2 softcover 88 pages
No. 21605 \$9.95





CHEMISTRY

**A THOUSAND AND ONE FORMULAS –
The Laboratory Handbook
for the Experimenter**
by Sidney Gernsback
reprinted by Lindsay Publications

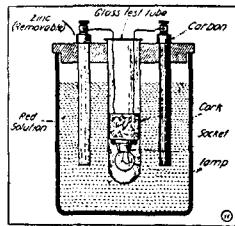
Here you get formulas on cements and glues, compositions of all kinds, glass and glass working, inks, leather polishes, metal-craft, perfumes, soaps, photography, blue-print and other papers, plating, pyrotechny, polishes and stains, varnishes and paints, cleaning compounds, wood-craft, chemical lab hints, mechanical lab hints, electrical lab hints, miscellaneous formulas and an appendix.

1001 FORMULAS

Unusual 1920 Formulas for the Kitchen Chemist

Not everything here is useful in my opinion, and some of it is downright dangerous. Some of this looks like it came out of the Boy Mechanic books. Learn how to convert coin silver into pure silver, formulas for solders, lithographic ink, how to make a gasoline torch, recipes for killing flies, an experiment with thermit, hand grenades ???, flashlight powder like the old photographers once used, methods to copper-plate carbon motor brushes, and on and on.

A lot of this is quaint, and not directly useful. It's for kitchen chemists of the 1920's. But a few of the formulas and ideas are worth the entire price of the book. If you're trying to build a master reference library of unusual secret formulas, this book is certainly worth considering. Fun reading if nothing else. Get a copy! 5 1/2 x 8 1/2 softcover 160 pages No. 20811 \$8.50



PRACTICAL DISTILLER

by Leonard Monzert
reprinted by Lindsay Publications

Make moonshine! Poison yourself!
Go blind!

From 1889 comes this little gem of a book showing how to distill "Brandy, Gin, Rum, Whiskey, Arrac, Poteen, etc., all of which owe their respective intoxicating properties to the amount of alcohol which they contain."

While other books show you how to make fuel alcohol, this one will show you the equipment you need to make booze. Included are discussions on the still and appurtenances, the farmer's still, directions for erecting a distillery, running a charge, the doubler, distillation of liquors, rectifying or leaching, alcohol refining,

Make Alcohol! *Powerful homemade fuel!*

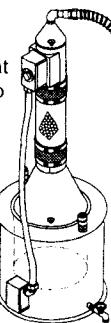
SECRETS OF BUILDING AN ALCOHOL PRODUCING STILL

by Vince Gingery

An intelligent person knows that hoarding gasoline is not a solution to fuel shortages. An intelligent person finds alternative solutions, and this machine is just such a solution.

Instead of trying to stockpile gasoline, you can make your own substitute out of sugar, corn, potatoes, or almost anything you can ferment into alcohol. This still will remove the water, creating almost pure alcohol, nearly 200 proof, so you can burn it in just about any type of engine.

Here Vince will teach you how to take common plumbing parts, copper sheeting, and standard electrical parts and build a 6 gallon capacity still. He'll show you how to malt, mash, and ferment corn into fuel and turn it into fuel. And



Vince will show you how easy it is to get a license and do all this with the blessing of authorities.

The still heats the wash with a water jacket in which is immersed a 120 volt water heater element. Temperature is controlled with a continuous thermostat. Eventually vapors boil through the rectifying column to the condenser. If you carefully maintain the precise temperature, you'll get almost pure alcohol.

The fuel you produce is not going to be cheaper than gasoline unless you have a low cost source of fermentables and want to make a version you can fire with scrap wood or coal. But if you can't buy gasoline at any price, even alcohol at three or four dollars a gallon is a bargain.

I'm sure you could use the still to make whiskey and brandy. But I'll tell you up front, that's against the law whether you sell it or not. The Feds want their taxes. If you're going to make moonshine, don't tell me about it.

Great book! Be independent. Thump your nose at the corner gas station. Build a still, and make fuel. Order a copy. 8 1/2 x 11 softcover 76 pages No. 6060 \$11.95

Distillation of Alcohol

Incredible 1907 Alcohol Fuel Manual

DISTILLATION OF ALCOHOL AND DE-NATURING

by F. B. Wright

reprinted by Lindsay Publications

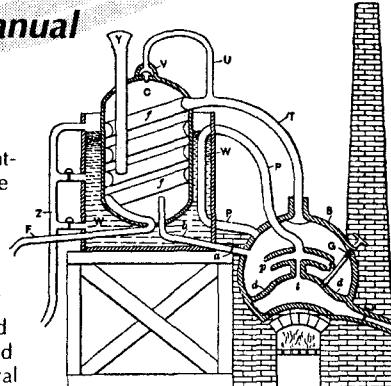
You can make industrial alcohol from anything fermentable. Here is one of the very best books you'll ever find on the nitty-gritty details of fermenting grain, fruit, potatoes, and more into a valuable fuel.

Chapters include alcohol, its forms and sources; preparation of mashes and fermentation; distilling apparatus; modern distilling apparatus; rectification; malting; alcohol from potatoes; alcohol from grain, corn, wheat, rice, and other cereals; alcohol from beets; alcohol from molasses and sugar cane; alcoholometry; distilling plants, their general arrangement and equipment; denatured alcohol, and denaturing formulae; denaturing regulations in the United States (now no doubt obsolete).

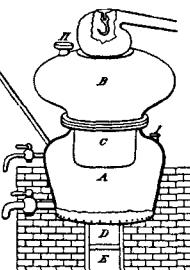
You get many, many illustrations of stills, and their equipment. You also get drawings of a potato steamer and crusher, a storage cellar for beets, a roll press for beets, a molasses fermenting house and more. You get recipes and the precise details on mashing.

This is fuel, and engines aren't too fussy about the booze they consume. If your goal is to make whiskey, you're on your own. It's against the law.

Great book! Originally copyrighted in 1907. Loaded with detailed how-to. Tremendous reference and source book for survivalists, farmers, Snuffy-Smith-types, chemistry buffs, and the curious. Good stuff. Get a copy. 5 1/2 x 8 1/2 softcover 271 pages No. 21427 \$14.95



Monzert's 1889 Practical Distiller



distillation of volatile oils, extracts, the water bath still, essences and liqueurs, blending and compounding and more.

Making booze without a permit is illegal. The government wants its taxes. You can use the equipment to make fuel alcohol for your car, perfume, and even vinegar.

If you intend to make booze, you're on your

own. Moonshine stills were made with galvanized iron, old radiators, and other nasty metal that could poison you. Besides, "white lightning" tastes like lightning because it isn't aged or mellowed in barrels. It's nasty stuff. And you'll find little information here on turning out really good whiskey. This is a book on equipment, not gourmet cooking.

A great curiosity. Rare information. I won't tell the WCTU or BATF you're ordering copy.

5 1/2 x 8 1/2 softcover 156 pages No. 4589 \$8.95

LINDSAY PUBLICATIONS INC, PO Box 538, Bradley IL 60915 • 815/935-5353

CONTENTS

• **Division I** — Chemical Metallurgy; Alloys; and Preparations Made and Obtained from Metals. Iron; Pig or crude iron; Malleable, bar or wrought-iron; Steel; Iron Preparations; Cobalt; Nickel; Copper; Preparations of Copper; Lead; Preparations of Lead; Tin; Preparations of Tin; Bismuth; Zinc; Preparations of Zinc; Cadmium; Antimony; Antimonial Preparations; Arsenic; Quicksilver or Mercury; Preparations of Mercury; Platinum; Silver; Gold; Manganese and its preparations; Permanganate of Potassa; Aluminum; Magnesium; Electro-Metallurgy

• **Division II** — Crude materials and products of chemical industry — Carbonate of Potassa; Saltpeter, Nitrate of Potassa; Nitric acid; Technology of the Explosive Compounds — gunpowder, and the chemistry of fireworks or pyrotechny; Nitroglycerine; Gun-cotton; Common salt; Manufacture of Soda — native soda; Soda from plants or soda-ash; Soda Prepared by Chemical Processes; Preparation of Iodine and Bromine; Sulphur; Sulphurous and Hyposulphurous Acid; Manufacture of Sulphuric Acid; Sulphide of Carbon; Hydrochloric Acid and Glauber's Salt, or Sulphate of Soda; Bleaching Powder and hypochlorites; alkalimetry; Ammonia and ammoniacal salts; Soap making; Boric or boracic acid, and borax; Production of alum, sulphates of alumina, and aluminates; Ultramarine

• **Division III** — Technology of Glass, Ceramic Ware, Gypsum, Lime & Mortar Glass manufacture; Ceramic or earthenware manufacture including hard porcelain, tender porcelain, stoneware, Fayence ware, common pottery, brick and tile making; Lime and lime-burning; Mortar including common or air-setting mortar and hydraulic mortar; gypsum and its preparation

• **Division IV** — Vegetable Fibers and Their Technical Application — Hemp; Cotton; Paper making — hand paper, machine paper, pasteboard and other paper; Starch; Sugar manufacture; Cane Sugar; Beet-root; sugar; Grape sugar; Fermentation; Wine-making; Beer-brewing; preparation or distillation of spirits — preparation of vinous mash and distillation of the vinous mash; Bread baking; Manufacture of vinegar; Preservation of wood; Tobacco; Technology of essential oils and resins; Cements, lutes and putty

• **Division V** — Animal Substances and Their Industrial Application - Woolen industry; Silk; Tanning; Glue Boiling; Manufacture of Phosphorus; Requisites for producing fire; Animal charcoal; Milk; Meat

• **Division VI** — Dyeing and Calico Printing - Aniline colours; Carbolic Acid colours; Naphthaline pigments; Anthracen pigments; Pigments from Chinchonine; Red Pigments occurring in plants and animals; Blue dye materials; Yellow dyes; Bleaching; Dyeing of spun yarn and woven textile fabrics; Printing of woven fabrics

• **Division VII** — Materials and Apparatus for Producing Artificial Light - Artificial light from candles; Illumination by means of lamps; Gas; Paraffin and solar or petroleum oils; petroleum

• **Division VIII** — Fuel and Heating Apparatus - Fuel; Wood; Peat; Carbonized peat; Brown-coal; Pit coal or coal; Petroleum as fuel; coke; artificial fuel; gaseous fuel; heating apparatus; heating dwelling houses; boiler heating and consumption of smoke

Chemical Manufacturing Secrets

1872 Handbook!

Everything from pig iron and nitric acid to bread and wine!

HANDBOOK OF CHEMICAL TECHNOLOGY 1872

by Rudolf Wagner
translated by William Crookes
reprinted by Lindsay Publications

In the 1872 German chemists were world famous, and Wagner's Handbook was the master reference for chemists the world over. This translation of the eighth German edition can be yours for much less than an original copy should you be able to find one.

And what a book it is!

You'll learn early and/or simple ways of making chemicals, refining metal, formulating glue, paper, dyes or just about anything else chemical in nature. I have never seen such a comprehensive collection of incredible technological detail in a single volume anywhere else.

Want to refine iron ore into steel? Want to make sulphuric acid? And use it to make nitric acid? And use it to make explosives? Care to brew beer?

How about a batch of whiskey? A loaf of bread? And on, and on, and on. You get a whole encyclopedia in a single volume — 745 pages of small type with 336 illustrations mostly of manufacturing apparatus.

This is not really a cookbook. You won't find step-by-step instructions. But you will find more detail on a wider variety of basic essential processes (many of them made obsolete by more complicated processes) than in

any other volume. For instance, if you're investigating the tanning of hides, making illuminating gas, charcoal, soap, or anything else, you'll find that this single volume can provide more information in less time than a search through most libraries for a month of Sundays.

Yes, this is an expensive volume, but you actually get more than what you pay for. This is quality. Today we have sophisticated, hi-tech processes that are closely guarded industrial secrets. Here you learn how it was done before large corporations and PhD chemists took over production. Be warned, though. This is old world thinking. You run the risk of poisoning yourself. These methods can be and probably are dangerous.

This incredible classic text will definitely fill a void in your reference library. I've never seen anything like it. And it's almost a sure thing you haven't either. It's expensive, but it's worth every penny and then some. Order a copy. You won't be disappointed. 5 1/2 x 8 1/2 hardcover 745 pages 332 illustrations

No. 4996 \$29.95

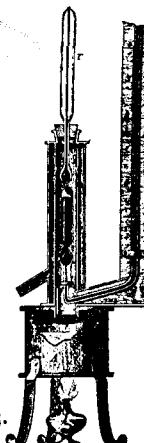
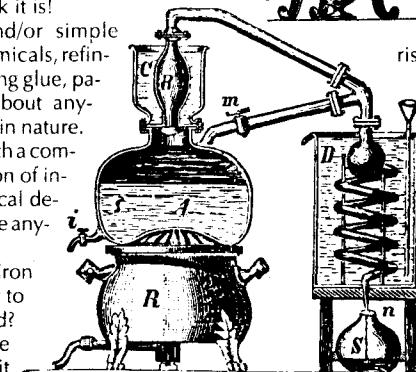


Fig. 265.



risk

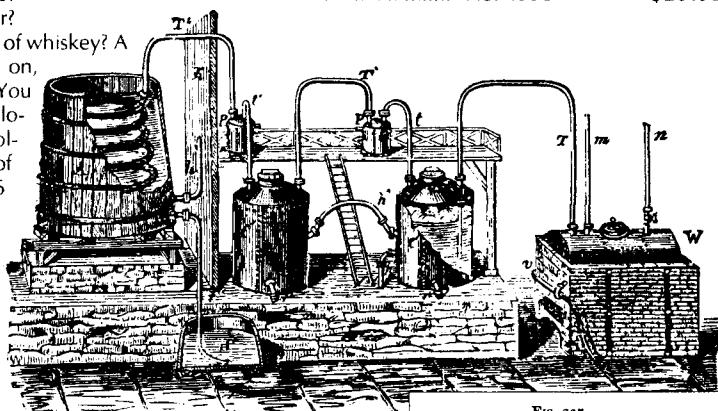
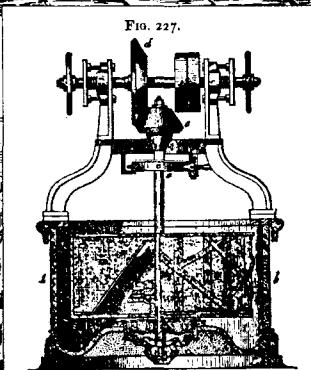
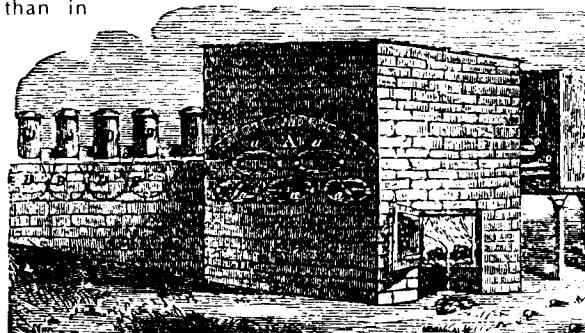
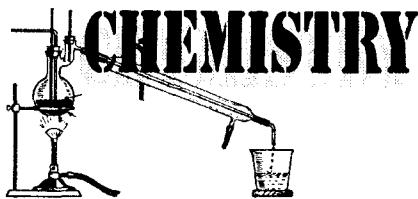


Fig. 227.





LINDSAY'S CHEMICAL CROSS REFERENCE

by Lindsay Publications Inc

If you haven't run into the problem yet, you will. You'll be reading some old chemical formula calling for mirbane oil, salt of satum, or liver of sulphur. A quick check of this handy list of chemical terms would tell you that you need nitrobenzene, lead acetate, or potassium sulphide.

Chem Cross Reference!

Translate Obsolete Old-Fashioned Chemical Names

What we did was enter into our computer two thousand chemical equivalents gleaned from a variety of chemistry textbooks, industrial references, and formularies in our reference library dating back to the early 1800's. The computer merged and sorted the lists into alphabetical order. The result is a chemical cross reference.

We have kept unusual and probably incorrect spellings. We have made no attempt to verify that the definitions are correct. What we have done is provide you with one master list of the best equivalents we could find. We've already found it useful, and you will too. Get a copy for your reference library. 5 1/2 x 8 1/2 softcover 44 pages

No. 20170

\$5.95

MANUAL OF FORMULAS

MANUAL OF FORMULAS, RECIPES, METHODS AND SECRET PROCESSES

edited by Raymond Wailes
reprinted by Lindsay Publications

Here's a great low cost collection of hundreds of formulas on just about every subject you can imagine compiled from the pages of Popular Science Magazine and published in 1932.

You can make soap bubble liquids, solidified gasoline, waterproof matches, lacquer for brass, silver solder, photographic printing paper, slow-drying putty, blackboard paint, thermite welding mixtures, pewter alloy, garden sprays, soaps, preparations for dance floors(?), concrete waterproofing compound, fireworks, cosmetics, adhesives and much more.

You'll learn how to mix up compounds for polishing and plating metal. Learn how to blacken brass, blue steel, to make silver nitrate from old spoons, mix up low temperature alloys, dry flowers, brew wine, re-ink typewriter ribbons, make blueprint paper, dye cloth, make flypaper and much more.

Unlike otherformularies, this one is new enough to be useful and old enough to have unusual formulas. And the price is quite reasonable compared with the large volumes which are interesting but often contain many formulas that are of little practical value. An interesting book of definite value. Order a copy today. 4 1/2 x 8 softcover 250 pages

No. 20366

\$9.95

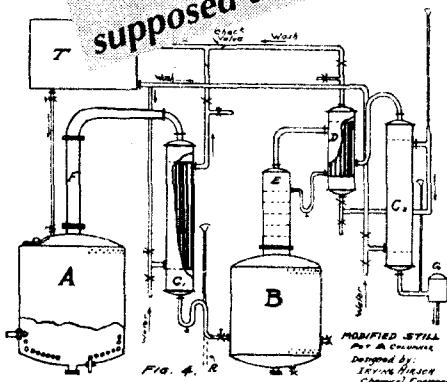
MANUFACTURE OF WHISKEY, BRANDY & CORDIAL

by Irving Hirsch
reprinted by Lindsay Publications

What you get here are the secrets of making good, drinkable booze that you're not supposed to know! In 1937 the author, a chemical engineer, put together this industrial handbook to teach others how to produce hard stuff. I guess there wasn't much to do but drink during the Great Depression.

Chapters include whiskey, treatment of grain, rye whiskey, distillation of liquors, distillery equipment and appliances, manufacture of brandy, of apple-jack, of pear brandy, of slivowitz, of fruit brandy, of rum, of gin, of miscellaneous liquors, of cordials, blending, maturing of spirits [very important], artificial maturing of spirits [trade secrets?], clarifying liquors, water, sugar and syrup, coloring and much more.

SECRETS
You aren't supposed to know!



Manufacture of Whiskey, Brandy & Cordials

We're not talking about small moonshine stills or "white lightnin'" that tastes like liquid fire. This is good stuff. We're dealing with big stills and big processes the way the pro's did it and are probably still doing it. You get diagrams of many different types of stills, condensers, filters and so on. You get recipes for everything from gin to creme de cocoa. You get useful tips on blending scotch whiskies, problems that occur if whiskey stays in bond too long, problems with sweating casks and much more.

Although I'll never make my own booze, I found this book interesting because this kind of information is never published. It's passed on through apprenticeships. The text is typewritten, and the illustrations are industrial. I get the overpowering feeling that this is information that the government and especially the distilling industry wants to keep to itself.

Excellent, rare information. An interesting book on something that people have enjoyed and gotten into trouble with since the beginning of time. Get a copy and enjoy it. Order a copy today! 5 1/2 x 8 1/2 softcover 183 pages

No. 20935

\$9.95



Build a Laboratory!

HOW TO MAKE AND USE A CHEMICAL LABORATORY

by R F Yates and revised by S A Pellerano

The subtitle reads "A book for beginners setting forth the fundamentals of chemistry in easily understandable terms. The many interesting experiments, together with the wealth of chemical knowledge contained herein, make this book indispensable to the student chemist and amateur experimenter."

You get three parts: introduction to the study of chemistry, equipping a small chemical laboratory, and chemical experiments. Within each part are many, many little sections on individual topics such as the law of combining weights, acids and bases, experiments in electrochemistry, fire clay crucibles, filter paper, beakers, fractional distillation, experiments in catalysis, cutting glass tubing, sealing a platinum wire into glass, experiments with aluminum hydroxide, sulfur dioxide, sulfuric acid, platinum wire flame tests, and much, much more.

You get illustrated suggestions on how to build various pieces of equipment such as laboratory shelves and benches, an exhaust hood, an alcohol burner, a small chemical balance, a test tube holder, a ring stand, a hydrogen sulphide generator, a small electric furnace and much more.

Reading this is not going to make you an expert chemist. This was put out in 1920 and 1939 when people wanted to experiment with chemistry. It's fun reading with great ideas. Just the details on building a sensitive lab balance is worth the price. And the electric furnace should melt steel!

Some of this of these experiments are certainly dangerous. You had better research safety before you try some of this stuff. Common sense is necessary. I warned you.

Fascinating handbook that is almost impossible to find these days. (It's now environmentally incorrect...) Interesting reading. Get a copy. 6x9 softcover 140 pages

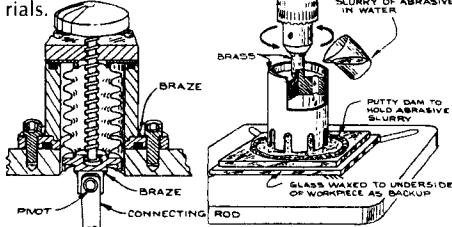
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\$9.95

BUILDING SCIENTIFIC APPARATUS

A Practical Guide to Design and Construction
by Moore, Davis, Coplan & Greer

The ultimate equipment book is Procedures in Experimental Physics offered elsewhere in this catalog. This book is the modern equivalent. I don't think this volume in any way surpasses Procedures but it is the closest thing I've seen yet. And it's about equipment built with modern materials.



BUILD SCIENTIFIC APPARATUS!

Chapters include: mechanical design, working with glass, vacuum techniques, optics, charged-particle optics, electronics, measurement and control of temperature. You also get references and a list of manufacturers and suppliers.

You'll learn about metals, alloys and their use in fabrication. You'll learn about bearings, working glass tubing, grinding and drilling glass, vacuum gauges, mechanical vacuum pumps, cryopumps, vacuum system design, cleaning optical components, features of laser design, spectrometers, Fabry-Perot interferometers, photovoltaic detectors, electron gun design, fringing-field correction, charged-particle detection, designing and building electronic equipment and much more.

You get great drawings, charts, diagrams, equations, and more. This is modern hi-tech stuff. IC's and transistors are fabricated from semiconductors, but semiconductors also produce light. You've heard of silicon, probably germanium and gallium arsenide. But how about cadmium telluride? It's available from Kodak under the name Irtran 6, and transmits out to 31 μ m! What do you need that for? I don't know. But neither will you unless you know this stuff is available. Then your imagination can dream up ingenious new uses.

You could be the first in your neighborhood to build a duoplasmatron ion source or a Mach-Zehnder interferometer. You could even put a bellows-sealed, wobble-drive, rotary-motion feedthrough on the mantle. Now wouldn't that raise the eyebrows of the roach exterminator next time he sprays your living room?

Knowledge of the contents of this book will push you beyond the level of the average machinist/handyman. And whether or not you use much of this material is not that important. The more you know, the more creative you can be because you have the raw material to synthesize new ideas. A smart mechanic will use this as an idea book if nothing else.

If you like to build unusual equipment, this belongs on your shelf next to Procedures in Experimental Science. Get a copy! 8 1/2 x 9 softcover 549 pages
No. 532

\$43.25

PROCEDURES IN EXPERIMENTAL PHYSICS

by John Strong
reprinted by Lindsay Publications

If you consider yourself an experimenter, an inventor, or a builder of unusual machines and equipment, you must have a copy of this fantastic classic text. No two ways about it.

You'll find wall-to-wall practical how-to and incredible illustrations on almost every one of the more than 600 pages. Chapters include: laboratory glass blowing, laboratory optical work, technique of high vacuum, coating of surfaces by evaporation and sputtering, the use of fused silica, electrometers and electroscopes, Geiger counters, vacuum thermopiles and the measurement of radiant energy, optics, photoelectric cells and amplifiers, photography in the lab, heat and high temperature, notes on the materials of research, notes on the construction and design of instruments and apparatus, and molding and casting.

This is some incredible stuff! Learn how to blow glass and make aspirators, distillation condensers, and so on. Learn how to seal copper to glass so that you can imbed electrodes. Learn how to rough cut lens blanks from large plates of glass and then grind them into lenses on your homebuilt lens grinder.

Procedures in Experimental Physics

Wall-to-Wall How-to! Classic Text! Incredible Illustrations!

infrared, visible light and ultraviolet so accurately that they can be used to calibrate photographic lightmeters and such. You've heard of carbon arc lights, but do you know how to build iron arc lights? Or low pressure mercury arc lights? And others? You can even build a machine to measure the wavelength of colored light.

You'll find details on hydrogen furnaces, crucibles, burners, electric arc furnaces, and even a lab setup for making artificial rubies

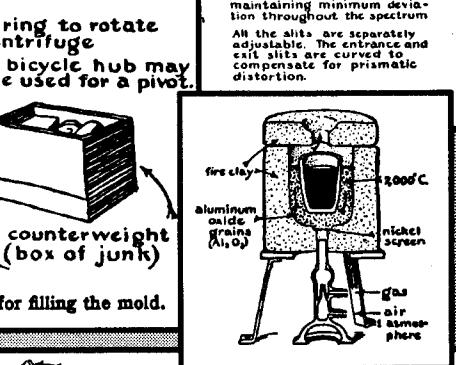
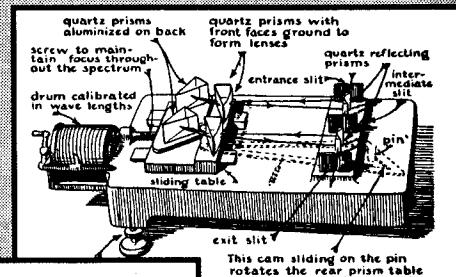


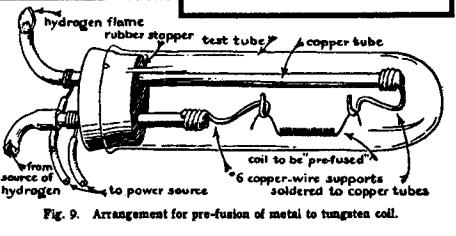
Fig. 9. Lost-wax casting. Centrifuge method for filling the mold.

Learn how to make a parabolic telescope mirror using the standard techniques. Learn to make unusual equipment to test the finished mirror. Learn how to grind a Schmidt lens.

Build high vacuum roughing pumps, getters for creating the highest vacuums, diffusion pumps using mercury and oil and much more. Silver mirrors, even with aluminum! Manipulate fused quartz strands to build a microbalance sensitive down to a billionth of a gram per division! And there's so much more!

Build a Compton adjustable quadrant electrometer, a Hoffman electrometer, and others useful for x-ray and cosmic ray work. Build a Geiger counter. You can build your own Geiger-Mueller tube if you master the high-vacuum technique taught earlier. Unfortunately, most of the electronics described is based on vacuum tubes of fifty years ago rather than on transistors.

Build vacuum thermopiles that measure



and sapphires! And there's much more - even down to what we consider the "easy stuff" like using a lathe and sand casting.

This is a fantastic book loaded with construction secrets for unusual equipment that you should have. First published in 1938, this baby went through a couple of dozen printings! It's a classic. It's incredible. You should have a copy for reference if nothing else. Highly recommended. Order a copy today. 5 1/2 x 8 1/2 sewn softcover 642 pages

No. 4562

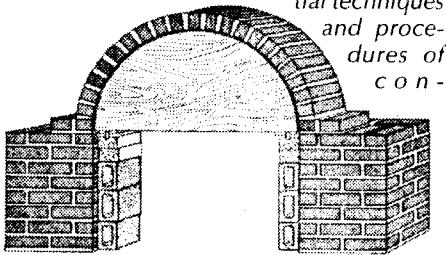
\$24.95

Masonry & Concrete

CONCRETE, MASONRY AND BRICKWORK
by the U.S. Army

Fortunately, Army brick walls are better than Army food. They usually taste better and are easier to digest. Here, you can learn to pour concrete and lay brick and block without having to enlist.

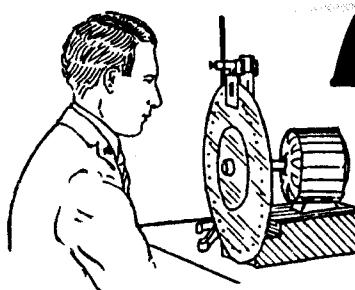
"A n y
h o m e
owner who
wants to
build a pa-
tio, drive-
way, porch,
retaining
wall, per-
manent bar-
becue, or even a garage, will find the es-
sential techniques
and pro-
cedures of con-



crete, masonry and brickwork in this practical handbook..."

Part One covers concrete components: proportioning concrete mixtures book, trial batch, and absolute volume methods; form design and construction; construction procedures - excavation, formwork, mixing, handling and transporting, placing, finishing, curing, effects of temperature, form removal, patching; reinforced concrete construction, including pre-cast concrete. Part Two continues with a general discussion of mason's tools, mortar and scaffolding; concrete masonry characteristics of concrete blocks, construction procedures; brick and tile masonry characteristics, brick-laying methods, brick construction, and more. 37 tables present important statistical information in convenient form, and 177 figures lavishly illustrate all portions of the text."

This is just a good ol' Army training manual from 1970. You get a lot of great info at a very reasonable price. If you like this, maybe I can dig up an Army cookbook! Wouldn't that be frightening? 8 1/2 x 11 paperback 200 pages Cat. no. 1322 \$7.95



Ancient TV!

EXPERIMENTAL TELEVISION
by A. Frederick Collins
reprinted by Lindsay Publications

Build 1932 televisions using Nipkow scanning disks. Experiment with disks, photo-electric cells, oscilloscope tubes, and build your own television transmitters and receivers. Very rare, and original copies are very expensive. 5 1/2 x 8 1/2 paperback 313 pages No. 20790

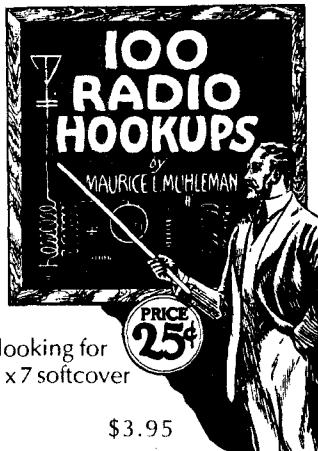
\$14.95

1920's "Advanced" Radio Designs!

100 RADIO HOOK-UPS
by Maurice L. Muhleman
reprinted by Lindsay Publications

This immensely popular 1920's booklet contains over 100 different circuit diagrams and details for (among others) triode vacuum tubes, honeycomb coils, variometers, crystal sets, plain vacuum tube sets, the famous Reinartz, the improved Reinartz, Neutrodynes, super-heterodyne, and several miscellaneous sets. An idea book for radio-builders looking for something different. Small, inexpensive, and worth having! 5 x 7 softcover 48 pages

No. 20641



\$3.95

Shortwave Handbook!

1933 SHORT-WAVE HANDBOOK
edited by
Cockaday & Holze
reprinted by
Lindsay Publications

Radio News Magazine's old radio-intro book. Instructions for building five simple short wave receivers, two advanced short wave designs, maximizing short-wave usage, short wave stations lists, and more basics. Later chapters focus on the intricacies of the Lincoln R-9 receiver, the American Bosch Model 260 "Super", the Scott deluxe all-wave super, the Hammarlund Comet "Pro," and more. I think you'll like it. 5 1/2 x 8 1/2 softcover 136 pages

No. 21176

\$9.95

Circuit Design

HENLEY'S 222 RADIO CIRCUIT DESIGNS

by Anderson, Mills, & Lewis

Circuit design overkill!! Every imaginable schematic for a basic crystal set is in Chapter Six, while Chapter Seven covers vacuum tube detectors and Chapter Eight handles audio amplifiers. Later sections discuss receivers and spark, CW, modulated CW and AM transmitters. 5 1/2 x 8 1/2 softcover 271 pages

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\$11.95

Battery Power!

PRIMARY BATTERIES
by Henry S. Carhart
reprinted by Lindsay Publications

Practical theory knowledge on the characteristics of turn-of-the-century batteries instead of how-to construction info. Chapters are broken down into 118 sections covering a host of experiments using almost any type of old primary battery you could think of. 5 x 7 softcover 208 pages

No. 20536



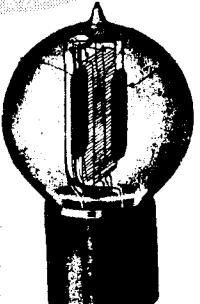
\$8.95

Vacuum Tubes!

VACUUM TUBES IN WIRELESS COMMUNICATION
by Elmer Bucher

Over 140 circuits for Vacuum tubes as Detectors, Radio or Audio Frequency Amplifiers, Regenerative and Beat Receivers, and unusual equipment like Dynatrons, Pliodynats, and Kenotrons. 5 1/2 x 8 1/2 softcover 208 pages

No. 20412



\$12.95

THINKERTOYS

by Michael Michalko

I haven't read all of this yet, but what I've read is great. Every human bean (or is it being?) has a tendency to get into predictable ruts, especially in his thinking. Tell someone something, and they're likely to believe it. They never question it. So how creative do you think these people are? Right. Zip.

ThinkerToys

Thirty eight chapters include: false faces, slice and dice, cherry split, think bubbles, tug-of-war, idea box, the toothache tree, Worrywillie's Guide to Prioritizing, rattlesnakes and roses, daVinci's technique, Dali's technique, Book of the Dead, and much more!

People think I'm really creative on one hand, but get really upset with me because I question what they believe and almost everything they say. This book will teach you valuable techniques for looking at the world, throwing out the accepted BS, and ask "What's really happening here?". When you do that, you're well on your way toward being creative.

"In hindsight, every great idea seems obvious. But how can you be the person who comes up with those ideas?"

THINKERTOYS makes

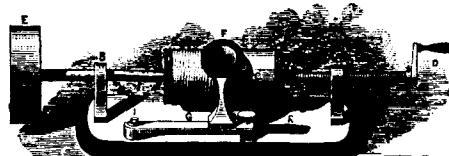
it easier with over 30 meticulously outlined techniques, and hundreds of hints, tricks, tips, and tales to turn anyone into a startlingly creative thinker...

[It] will teach you to generate ideas for new businesses, new products, product extensions, new markets, and new sales techniques..."

Creativity and the courage to act on it is the difference between being a leader or a follower, between being a success or a failure, or between being looked up to or down upon. Which are you going to be?

I know from experience that creative people make the world go around. Ask Tom Edison. Get hot! Get a copy of this and be a winner. I gotta go read some more of this...

7 1/2 x 9 softcover 335 pages
No. 5016 \$17.95



Notebook 11 - PHONOGRAPH & ICE MAKING MACHINERY

From 1879 a short article on Edison's new phonograph. The rest covers refrigeration which was the cutting edge of technology at the time. You'll learn about unusual refrigeration processes long forgotten like the Johnston & Whitelaw machine, the Vander Wyde machine which used naptha or even gasoline!!!, Kirk's cooling machine and others. Also included are formulas for chemicals which when mixed produce intense cold. Unusual! 5 1/2 x 8 1/2 booklet 14 pages
No. 880 \$2.75

Practical Math!

One of the Most Powerful Tools Ever Devised!

PRACTICAL MATHEMATICS FOR HOMESTUDY

by Claude Palmer

reprinted by Lindsay Publications

Math is important to mechanics and machinists. It can mean the difference between having a design fail or getting it right the first time. If you're rusty on your math and need a good review, this is a great book to have.

Chapters include common fractions, decimal fractions, short methods, weights and measures, percentages, ratios and proportion, density and specific gravity, and powers and roots.

The geometry chapters cover plane surfaces, triangles, circles, graphical methods, prisms, cylinders, pyramids and cones, spheres, and other solids.

The algebra chapters include notation, formulas and translations, positive and negative numbers, addition and subtraction, exponents and powers, quadratic equations, variation, graphics, logarithms, angles, trig functions, trig tables, right triangle, and more.

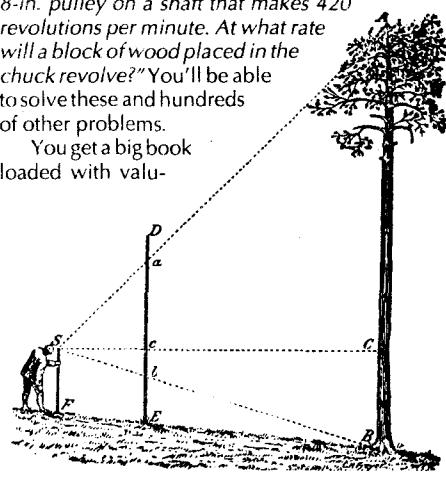
You'll learn the math in short, clearly explained lessons. Then you'll be asked to solve problems like "Two steam boilers of the same shape are respectively 12 ft and 15 ft long. Find the ratio of their surfaces." After you solve the problem, you can check it against the answer given.

Another problem asks "To what diameter should

a piece of stock be turned so that it may be milled to a hexagon and be 1 3/4 in. across the flats?"

Or solve this one: "The pulley on the headstock of a lathe is 3 in. in diameter. This is belted to an 8-in. pulley on a shaft that makes 420 revolutions per minute. At what rate will a block of wood placed in the chuck revolve?" You'll be able to solve these and hundreds of other problems.

You get a big book loaded with val-



able lessons and practical problems. Get a copy and get going. 5 1/2 x 8 1/2 softcover 518 pages
No. 4775 \$12.95

Be A Speed Demon with Numbers!

HOW TO CALCULATE QUICKLY

by Henry Sticker

"Do you want to double or triple the speed with which you calculate? Can you run a rapid mental check over the results of your calculating machines? Can you check bills worked out for you by grocery store cash registers, on waiters' checks, on department store charge accounts? Or do you simply take their word for the disposal of your money? Don't envy friends who can perform these calculations with lightning speed and complete accuracy..."

How to Calculate Quickly is a tried and true method for helping you in the mathematics of daily life - addition, subtraction, multiplication, division, and fractions.... This book teaches those necessary mathematical techniques which schools neglect to teach: Horizontal addition, left to right

multiplication and division, etc. You will learn a method of multiplication so rapid that you'll be able to do products in not much more time than it would take to write the problem down on paper...."

If you're not afraid of a milling machine or a ladle full of molten metal, then why should you be afraid of numbers on paper? On in this case, in your head? Math is a tool. Anyone who avoids math because they're intimidated by it is letting an extremely powerful tool go unused. This inexpensive book of tricks can help you get better use from simple math. Valuable for everyone. Dirt cheap. Get a copy. 5 1/2 x 8 softcover 185 pages
No. 598 \$3.95

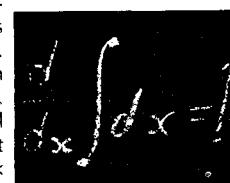
Calc Made Easy

CALCULUS MADE EASY

by Silvanus Thompson

Fear is often the biggest obstacle to learning math --- all those strange symbols! When a calculus book starts out in the first sentence of first paragraph on the first page explaining what the most scary symbols mean, you know it's a good book. The author obviously wants to teach you something rather than scare you.

Any scientist or engineer will tell you calc is a tool not much different from a welder or a lathe. But I took calc from a mathematician in college, and that jerk thought calc was an art form! Most of the time I didn't know what he was talking about (I'm not sure he did either).

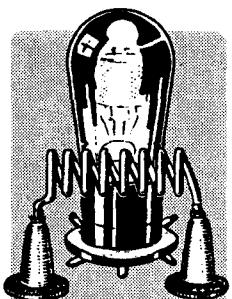


Who's looking for beauty in numbers? I need to solve problems.

This shows you how useful calculus is. It is as practical an approach as I've ever seen, and the author really takes the fear and confusion out of teaching this math.

Don't get me wrong. Just thumbing through this book is NOT going to teach you calc. You're going to have to work at it. But Thompson's approach is down to earth, and he covers it all: differentiation and integration. And this is 90% of the heavy math you see in engineering books.

A lot of book for the money! If I had had this book at the same time I had that madman mathematician, I probably would have learned a lot more. It's too late for me, but not for you. Order a copy. 5 1/2 x 8 1/2 softcover 250 pages.
No. 52 \$8.95

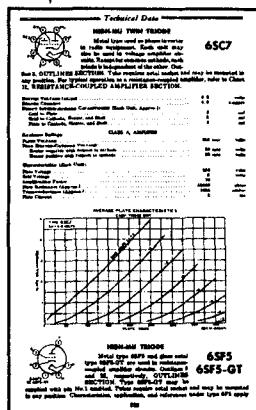


ELECTRICITY! ELECTRONICS!

RCA RECEIVING TUBE MANUAL RC-19

by Radio Corporation of America

You say you found a 6AW8 in an old TV? Could you build a radio out of it? On page 139 of this reprint of the 1959 RCA tube manual, you'll find that it's a triode and a pentode in one glass envelope. Wow! There's your pentode regenerative detector and a high-mu audio amp to follow. It's a complete radio in one tube!



RCA Tube Manual

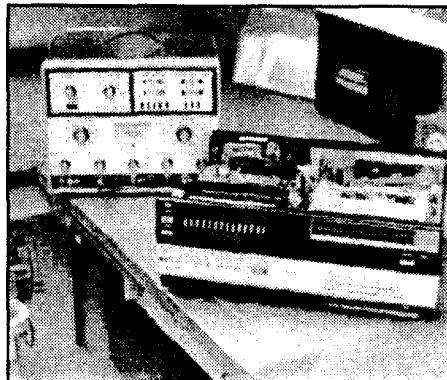
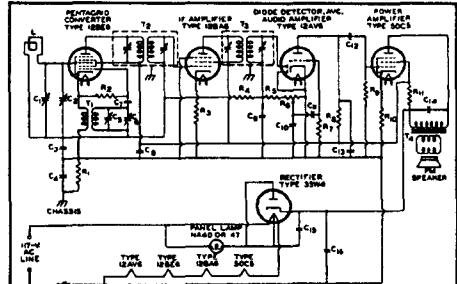
tubes available in the 50's and 60's and on back.

You get brief tube theory up front, followed by the main body of tube specs, and then details on testing, design, sample circuits and more. You get some of this data in the back of old Radio Amateur Handbooks, but not anymore. No tubes in the modern editions. You even get brief descriptions with pin diagrams for very old tubes like the 5 prong No. 15 — a sharp cutoff pentode, or the 4 prong 2A3 power triode. All kinds of tubes: 7 pin, 8, 9, even 12.

Trying to build or repair tube gear without a tube reference is difficult. This is a classic — an edition that covers more tubes of different types than just about any other I've run into. Get a copy for your reference library. A classic. 5 1/2 x 8 1/2 softcover 384 pages

No. 3054

\$11.95



Repair Your VCR!

MAINTAINING & REPAIRING VCRS

by Robert L Goodman

VCRs and computers are like manure. They're everywhere. Maybe it's time to think about learning these kinds of machines and earning some bucks. Or learning to recycle and turn the other guy's trash into something of value.

From the backcover:

"Make your own VCR repairs using the same techniques as the professionals. This definitive repair guide tells you everything you need to know."

If you're a technician, electronics hobbyist, or VCR owner with a modicum of technical aptitude, this practical manual shows you how to troubleshoot, pinpoint, and correct virtually every malfunction in VHS, Betamax, and 8mm VCRs. This new edition of the best-selling guide is completely updated to cover all of the latest makes and models.

From snowy pictures to garbled audio, you'll learn how to fix it quickly using the same techniques used by experts. Step-by-step instructions and hundreds of photographs, pinout diagrams, and drawings make it simple to tackle even the most difficult problems. Packed with helpful case studies, this book contains invaluable information gathered from the service departments of such companies as General Electric, RCA, Panasonic, and Sony.

You'll find in-depth coverage of: mechanical systems and electronic circuits used in consumer VCRs. Test equipment, servo and control systems, camcorders and special VCR circuits, including HQ video and stereo and digital audio circuits.

Contains handy troubleshooting flowcharts."

This book has two functions. First, it tells us, the curious, how these machines work, and that's fun to know. Second, it tells some of us what we're getting into when we decide to start servicing. And that includes special knowledge, jigs, gauges, and electronic test equipment.

I'll probably never repair my VCR, but I sure do like this book nonetheless. Loaded with details. Lots of meat. The first VCR I ever repaired was built in '58, had 150 vacuum tubes, occupied six 6' foot relay racks, and used 2" quad tape on 3600' reels! (I still hear it in my sleep: "This is an RCA monochrome video alignment tape recorded with signals specified by the SMPTE recommended practice...") That \$150 box now on my TV delivers far better quality! Amazing!

Good book. Expensive, but it delivers. Consider it. 7 1/2 x 9 softcover 495 pages
No. 3040

\$24.95

HOW TO BUILD A SOLAR CELL THAT REALLY WORKS

by Walt Noon

Yes! You CAN build a solar cell that converts sunshine into electricity. And it's really quite easy.

Modern high efficiency solar cells based on silicon crystals are difficult and dangerous to manufacture. You would need exceptionally expensive equipment just to perform the most basic experiments. But fortunately there is another method.

Walt Noon will show you how to quickly and inexpensively build a copper oxide photo cell. Admittedly, its overall efficiency doesn't come close to modern silicon cells, but neither does the cost. You can crank out cells for pennies. Connect many cells in parallel and

series, and you can generate surprising amounts of power.

The process requires only simple tools. The chemicals, like all chemicals, can be dangerous if mishandled, but the worst is probably nitric acid which is used to thoroughly clean the copper.

Build a SOLAR CELL that really works!

He'll show you to make a working cell, test it, troubleshoot it if necessary, and even give you ideas on an experimental painted cell that he's working on. In addition, he'll give you schematics of test circuits, sample applications, and interesting projects that he's tried. You'll also get names and addresses of suppliers.

That author is not a professional, but he has safely built and used these solar cells, and he's willing to show you how it's done. You get a 24 page booklet with many drawings, schematics and photographs that describes the relatively simple process in detail.

Build solar cells! Perhaps you can make some improvement in the process that will improve efficiency. Build electronic equipment. Charge batteries. Build a great science fair project. No matter what your objective, you'll find this to be a fascinating project worth trying. Rare information! Order a copy of this inexpensive booklet today.

5 1/2 x 8 1/2 booklet 22 pages
No. 819

\$4.95

UPGRADING AND REPAIRING PCS

4th Edition

by Scott Mueller

This is as close to an everything-in-one book as I ever hope to see. It covers everything in detail: motherboards, memory, disk drives, expansion slots, power supplies, mass storage, CD-ROM drives, backup, sound boards, video boards, monitors, I/O ports and much more. This is a monster book that IS found in bookstores. The publisher claims more than 650,000 copies have been sold.

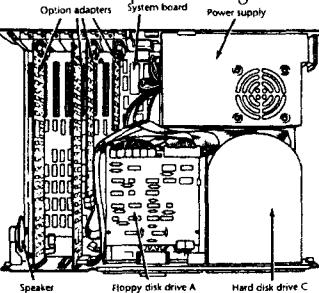
Junk computers are available. You can recycle them using this. It covers the old and the new and gives technical details, specifications, error codes that I haven't found elsewhere. It even has a pin map for that damned microchannel bus machine that I took the

ELECTRICITY! ELECTRONICS!

REPAIR COMPUTERS!

sledge hammer to, a few years back! I didn't know anyone even cared enough to figure it out! (How's that for sarcasm?)

The truth is this mutha weighs five pounds and has over 1500 pages of wall-to-wall reference material on disassembly, repair, and configuration of IBM PC compatibles. Not long ago an insurance man gave me an ancient machine that I passed along to an experimenter who promptly set it up as an efficient text processor at almost no cost. You certainly don't need a Pentium processor to type letters. This book is cheaper than the newest chip set.



Great book! It's so big that it's literally a pain to handle it. But they don't get better than this. I want you to send us an extra dollar to cover the extra shipping if this is the only book you order. 7x9 softcover 1546 pages No. 3041 \$39.99

The Boy Electrician

Classic 1940 Edition Available Again!

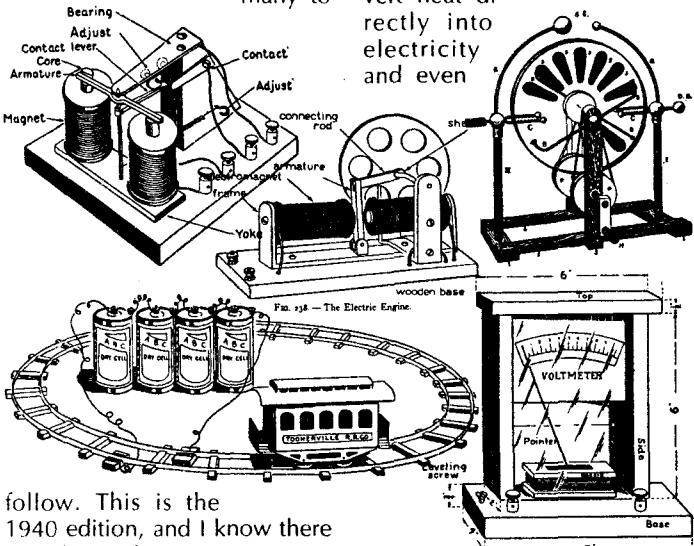
THE BOY ELECTRICIAN

by Alfred P. Morgan

reprinted by Lindsay Publications

If there could be only one book chosen as the boy's book of electricity, it would have to be this one. The first edition appeared in 1913 and there were many to

induction coil, a step-down transformer, wireless telegraphy with a crystal set receiver, vacuum tube receivers including a regenerative, motors and generators, an electric train, a device to convert heat directly into electricity and even



follow. This is the 1940 edition, and I know there were later editions.

Here, you get chapters entitled magnets and magnetism; static electricity; static electric machines; voltaic cells and batteries; electromagnetism and magnetic inductions; electrical units; wires and accessories; electrical measuring instruments; bells, burglar alarms and annunciators; telegraphy; microphones and telephones; induction coils; transformers; wireless telegraphy; radio receiving sets; an experimental "wireless" telephone; electric motors; dynamos; an electric railway; miniature lighting; miscellaneous electrical apparatus.

You may remember having read "The Boy Electrician" when you were a kid. If not, you missed something. You get practical how-to plans and advice to build and have fun with all kinds of electrical equipment. You might start with a cork and needle compass, but before long you'll be building a Wimshurst machine, powerful batteries from scratch, galvanometers, voltmeters, ammeters, telegraph keys and sounders, a telephone, a high voltage

a Tesla coil!

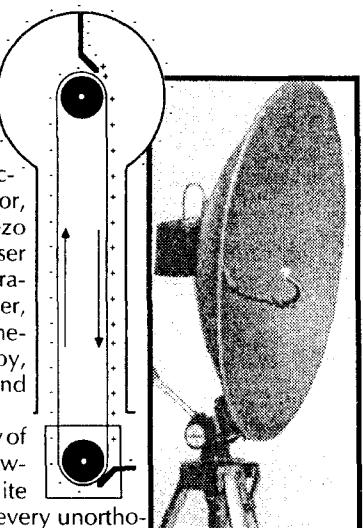
The whole book is heavily illustrated and a joy to read. Remember. This is written for boys. You're not going to get detailed design theory. Morgan keeps the discussion light and fun. But these are great projects.

You get a boy's classic book. Books like these aren't published anymore. This is worth having. Lots of great experiments, ideas, and teasers to get the imagination going. So get off yer butt and get a copy of this. Start building. Even if you sit on the couch, suck a barrel of beer and eat a cubic yard of potato chips like I do anymore, you can still enjoy this. It's fun to read. Get a copy. 5 1/2 x 8 1/2 softcover 403 pages No. 21648 \$19.95

BOY ELECTRICIAN Hardcover Edition

I had just a few copies of the clothbound edition. They are quickly disappearing. Order now while they last... No. 21656 \$24.95

Sold Out!



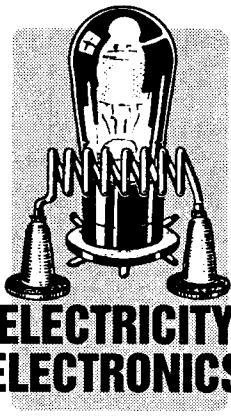
GADGETEER'S GOLDMINE!

by Gordon McComb

Here, in a single book, are 55 off-the-wall devices you can build.

You get a Jacob's ladder, plasma sphere generator, induction coil, Van de Graaff generator, Tesla coil, Kirlan camera, piezo film speaker and amp, He-Ne laser pistol, variable-rate strobe light, radiation detector, universal receiver, superconductor disc, see-in-the-dark viewer, shape-memory alloy, espionage devices, robots, and more!

And this is good stuff! – plenty of detail: illustrations, diagrams, how-to text. The list of suppliers is quite impressive, too. This is a book every unorthodox experimenter should have in his library and never loan. Get one! 7 1/2 x 9 softcover 406 pages No. 383 \$22.95



ELECTRICITY! ELECTRONICS!

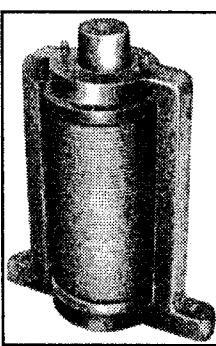
**SOLENOIDS,
ELECTROMAGNETS AND ELECTROMAG-
NETIC WINDINGS**

by Charles R. Underhill
reprinted by Lindsay Publications

Creating an electromagnet is quite easy as Faraday discovered, and as you and I know. But creating an electromagnet that generates a field of needed intensity, drawing minimal amperage at available voltage without overheating is not so easy. Few people know how it's done. Here you'll learn the secrets of creating working electromagnets.

Secrets of Electromagnets!

Chapters include: magnetism and permanent magnets, electric circuits, electromagnetic calculations, the solenoid, practical solenoids, iron-clad solenoid, plunger electromagnets, electromagnets with external armatures, electromagnetic phenomena, alternating currents, AC electromagnets, quick-acting electromagnets and methods of reducing sparking, materials and bobbins, insulation of coils, magnet wire, insulated wire, windings, forms of windings, heating of windings, and tables and charts. There are also 233 illustrations listed showing everything from a practical multiple-coil winding to rim solenoids telescoped to form disk solenoids.



Some things have changed since 1921 such as better insulation and higher-permeability iron, but amps are still and amps and Oersteds are still Oersteds.

Build that perpetual motion machine that some people claim is possible. Or how about a flying saucer? Or how about just getting a copy for your reference library? When the need arises, you'll have rare information immediately available. Excellent book. Get one! 4 1/2 x 8 paperback 342 pages

No. 20960 \$15.95

Run Three- Phase Motors!

RUN THREE PHASE MOTORS ON SINGLE PHASE POWER!

Yes! You can run three-phase motors on single-phase power using any one of three excellent methods in use since the turn of the century. First, lathes, drill presses, and other machine tool motors can be run with the capacitor method. Second, the autoformer method (a technique you should buy rather than build) is useful for motors running under continuous full load. And finally you can run a whole shop full of three-phase motors from a single, easy-to-build dynamic converter! No rewinding is necessary. These methods are good to at least 150 hp and 220 volts! Low starting currents and excellent power factor are possible.

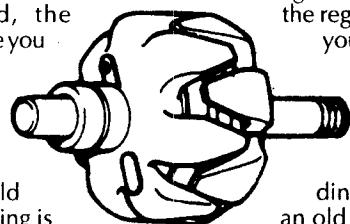
Basic three-phase and induction motor theory is included. This booklet and some experimentation can have you up and running. 5 1/2 x 8 1/2 booklet 15 pages, 18 illustrations — a BARGAIN!

No. 81 only \$3.00

Alternators!

ALTERNATOR SECRETS

If you know the secrets of modification, you can get large amounts of power from a common auto alternator. You can build a portable powerplant driven by a gasoline engine to run brush-type power tools, lights, and AC-DC appliances at remote locations. You can hot-charge storage batteries, or even do light arc welding. Operation of the regulator is explained so that you can build a custom regulator, if needed, to provide regulated output voltages other than 12.



Learn how you

can make almost any ordinary induction motor (like

an old washing machine motor) put out 120 volts at 60 cycles without rewinding or internal rewiring. These secrets are worth the price of the booklet alone.

We've jammed a ton of information into 16 pages with small type to keep printing costs down so that we can keep the retail price the same as the old edition. Valuable, rare info! Get a copy. 5 1/2 x 8 1/2 booklet 16 pages

No. 80 \$3.00

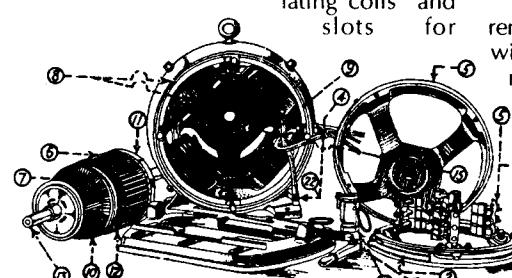
Armature Winding & Motor Repair

ARMATURE WINDING & MOTOR REPAIR

by Daniel H. Braymer
reprinted by Lindsay Publications

From 1920 comes this motor rewinding book loaded with drawings and photographs that will show you how to rebuild both AC and DC machines.

Chapters include: DC machines, AC machines, shop methods of rewinding DC armatures, making commutator connections, testing DC armature windings, operations before and after winding DC armatures, insulating coils and slots for



winding, shop methods for rewinding AC machines, testing induction motor windings for mistakes and faults, adapting DC motors to changed operating conditions, practical ways for reconnecting induction motors, commutator repairs, adjusting brushes and correcting brush troubles, inspection and repair of motor starters and generators, diagnosis of troubles, methods to solve special troubles, tables and more.

You'll find a chapter that shows you how

to build special tools and jigs, an armature sling, a pinion puller, coil winding machine, a coil taping machine, commutator slotter, armature banding machine and more.

The motors described are large types used in factories. But the principles apply to the smaller motors you and I use. You'll learn how to reconnect induction motors for different voltages and phases, how to operate a DC motor as a generator and vice-versa, change the DC motor windings for different voltages, and more.

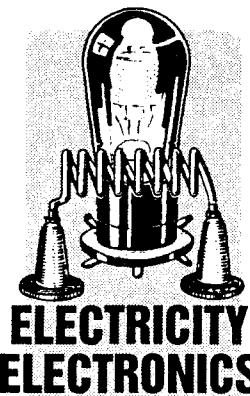
You'll be taught all the techniques — from removing old windings and cleaning slots, to winding the coils, insulating the end connections, inserting the coils, painting the windings, relining split bearings, and much more. You get data on all types of wave and lap windings, varnishing and insulating materials, and much more.

I make you no promises, but this is the logical place to start should you want to rewind a motor to particular voltage, wind a generator or alternator for use with a windmill or waterwheel, rewind a big generator for use as a welder, modify a DC motor for use in an electric car, and so on.

This is a beautiful book. You get over 500 pages of clearly written, wall-to-wall practical how-to with excellent illustrations. It's a gem that should be in the reference library of most "machine freaks" (that includes you, son). Get a copy 5 1/2 x 8 1/2 softcover 540 pages

No. 4384

\$18.50



VIDEO SCRAMBLING & DESCRAMBLING FOR SATELLITE & CABLE TV

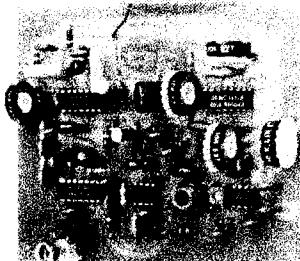
by Graf & Sheets

If you have purchased or plan to purchase a satellite dish to capture signals coming from the many Earth-orbiting satellites, this book is for you.

You get:

- An understanding of encoding/decoding systems
- The theory and techniques of video encryption and decryption
- An overview of the rules and regulations governing the availability and use of satellite signals, antennas, and programming materials
- Schematics and details for several encoder and decoder projects.

How to Unscramble Video!



Originally published in 1987, this book provides detailed information on everything from simple cable encryption systems to commercial satellite systems such as VideoCipher II™, the B-Mac System, and even the Data Encryption standard.

Although the authors are quick to point out that the information is not to be misused in theft of signal, they have provided a wealth of schematics, printed circuit board layouts, IC chip specs, patent reprints, list of satellites and the scrambling systems they use and much more. This is a quality master reference that any video/satellite fanatic will find useful. Order a copy today! 8 1/2 x 11 softcover 246 pages

No. 370

\$24.95

Neon Signs

Great How-To on Glass Blowing, Vacuum Systems, High Voltage and more from 1935!

NEON SIGNS

by Miller & Fink

reprinted by Lindsay Publications

Sure. Equipment, techniques, and sign design have changed since this book first appeared in 1935, but not all that much.

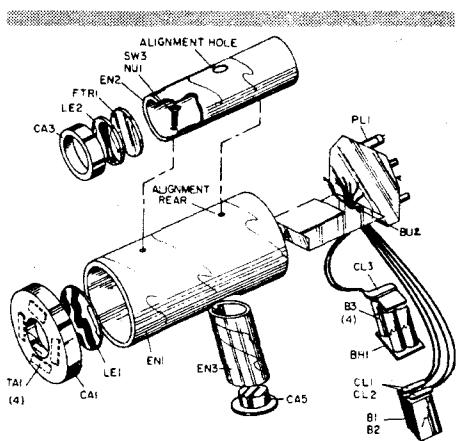
Even if you're not interested in making neon signs, you'll find loads of useful information on rare gases, glass blowing, and vacuum systems that could be useful in experimental physics, high voltage, or even in building

your own experimental vacuum tubes! Chapters include the luminous tube, materials, electrical equipment, types of signs, designing the sign, glass bending, pumping systems, bombarding, filling, testing, aging, installation equipment, special applications, tricks of the trade and more!

This is a quality straight-to-the-point book loaded with diagrams and photographs that you won't find just anywhere. It might be fun to make bizarre neon signs, repair "antique" signs, or just get into the trade. But even if that's not your goal, you'll find loads of unusual, interesting information. Consider this carefully. It certainly is NOT run of the mill. Order a copy. 5 1/2 x 8 1/2 softcover 288 pages

No. 20340

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Lasers! Phasers! Ion Ray Guns!

BUILD YOUR OWN LASER, PHASER, ION RAY GUN...

by Robert E. Lannini

Here's one of the most bizarre collections of how-to plans I have ever seen. You'll learn how to build high-power pulsed red ruby laser gun, high-power continuous IR CO₂ Laser, ultrasonic field generator, programmable high-power ultrasonic generator, 250,000 volt Tesla coil, magnetic field distortion detector, solid-state Tesla coil, a variety of wireless "bugs", a super-sensitive parabolic microphone, electronic paralyzing device, battery charger and eliminator and much more.

Lannini is an experienced electronics inventor, and holds many patents. He'll give you parts lists, wiring diagrams, assembly diagrams and all you need to get these projects built. I don't think that it's any coincidence that almost every plan has a footnote telling you that kits are available from Information Unlimited, Inc., which is owned by the author and which advertises in the back of the science and mechanics magazines. No doubt, that firm's best selling plans have been reprinted in this single volume.

This book is expensive, but it delivers. I really like this, and I'm sure you will too. Order a copy, even if it has to sit for two years on the shelf before you get ready to build. Excellent book. 8 x 9 1/2 softcover 390 pages.

No. 346

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UNUSUAL PROJECTS

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SECOND DAY AIR — UPS Second Day air (2-day delivery) costs less than next day air.

PRIORITY MAIL — First Class Mail (all 1st class mail is airmail) costs several dollars more depending on weight and is supposed to provide 3 day delivery to any zip code. (If you live in the South Pacific, don't hold your breath!)

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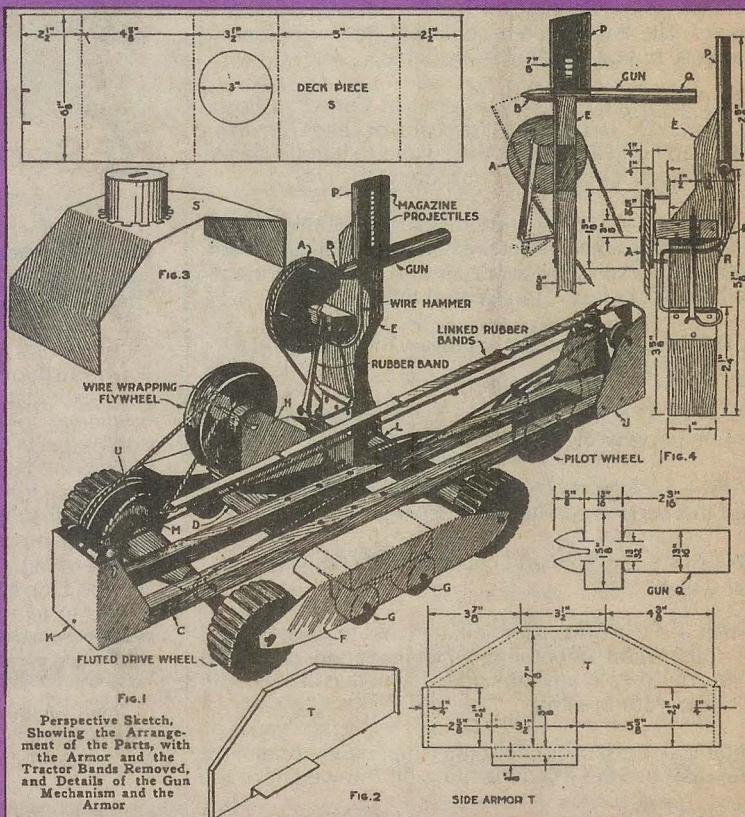
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Terrorize Your Neighbors with a Tank!

"...The tank described in this article, while not as deadly as those on the battle fields of Europe, performs remarkable feats of hurdling trenches, and crawling over obstructions, large in proportion to its size. The model, as shown in the heading sketches, is full-armored, and has a striking resemblance to these war monsters. The turret is mounted with a magazine gun, which fires 20 projectiles automatically, as the tank makes its way over the rough ground. The motive power for the tractor bands is furnished by linked rubber bands, stretched by a winding drum and ratchet device, on the rear axle, as shown in Fig. 1. When the ratchet is released, the rear axle drives the fluted wheels on it, and they in turn drive the tractor bands, as shown in the side elevation, Fig. 6. The wire-wrapped flywheel conserves the initial power of the rubber-band motor, and makes its action more nearly uniform.

The tank will run upward of 10 ft. on the rubber-motor power, depending on the size



and number of the bands used. The gun is fired by a spring hammer, actuated by a rubber band. The trigger device is shown in Fig. 1. The pulley A is belted, with cord, to the front axle. Four pins on its inner..."

from *Boy Mechanic Vol III*
to be reprinted in late 1996